

**KYRGYZ REPUBLIC**

**Kyrgyzstan Renewable Energy Development Project (KRED)**

**EXECUTIVE SUMMARY**

**OF**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT  
FRAMEWORK (ESMF)**

**Bishkek  
February, 2023**

## *LIST OF ABBREVIATIONS AND ACRONYMS*

ACM	Asbestos Containing Materials
ACMMP	Asbestos Containing Materials Management Plan
ARAP	Abbreviated Resettlement Action Plan
BPI NAS KR	Biology and Soil Institute of the National Academy of Sciences of the Kyrgyz Republic
CC	Civil Code
DDR	Due Diligence Report
DEIS/PZVOS	Draft Environmental Impact Statement
DMS	Detailed Measurement Survey
EIS	Environmental Impact Statement
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FS	Feasibility Study
GBV	Gender-Based Violence
GGOHSESA	General guidelines on OHS and ESA
GRM	Grievance Redress Mechanism
HH	Household
IDA	International Development Association
IFIs	International Financial Institutions
IR	Involuntary Resettlement
IVM	Integrated Vector Management
KGS	Kyrgyz som
LAR	Land Acquisition and Resettlement
LC	Land Code
MH	Ministry of Health
MLSSM	Ministry of Labour, Social Security and Migration
MNRETS	Ministry of Natural Resources, Ecology and Technical Supervision
MoE	Ministry of Energy
MPC	Maximum Permissible Concentration
NEHC	National Energy Holding Company
NGO	Non-governmental organization
OHS	Occupational Health and Safety
PAP	Project Affected Persons
PBC	Performance-Based Conditions
PMU/PMO	Project Management Unit/Project Management Office
POP	Persistent Organic Pollutants
PPE	Personal Protective Equipment
ROW	Right-of-Way
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SEE	State Environmental Expertise
SHPS	Small Hydroelectric Power Station
SIA	Social Impact Assessment
SS	Safeguards Specialist
TOCH	Tangible Objects of Cultural Heritage
ToR	Terms of Reference
USD	U.S. dollar
WB	World Bank
WB ESS	World Bank Environmental and Social Standards
WB ESF	World Bank Environmental and Social Framework

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## 1.0 INTRODUCTION

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The ever-increasing growth of electricity consumption in Kyrgyzstan and persistent shortage, a need to develop cost-effective and medium-term projects for development of the energy sector has been felt. Accordingly, Government of the Kyrgyz Republic is planning to develop generation of additional energy through renewable sources including augmentation of small and medium hydropower projects. To achieve the intended objectives a comprehensive project titled “Kyrgyzstan Renewable Energy Development Project (KRED)” has been planned to be implemented by the Ministry of Energy of the Kyrgyz Republic (MoE) in association with their different Open Joint-Stock Companies (OJSC) with financial assistance from International Development Association.

For the implementation of proposed KRED project, it is not only mandatory to comply with applicable national legislations/regulatory framework on environment and social issues but to carry out due diligence on such issues as per the provisions of World Bank's Environmental and Social Framework (ESF) to meet the overall requirement of sustainable development. To address these requirements a detailed Environmental and Social Management Framework (ESMF) is prepared.

This ESMF defines a mechanism for integrating environmental and social concerns into the planning and execution of proposed KRED Project. The ESMF thus defines processes for planning and implementing the environmental and social safeguards management and lays down the management procedures and protocols for the purpose that includes the framework for identification, assessment, management and monitoring of environmental and social concerns at both organizational and project/subprojects levels so as to avoid, reduce/minimize and/or mitigate project environmental and social risks and adverse impacts.

As the technical / feasibility studies, detailed designs) are underway, and specific intervention locations under the project are not finalized and their specific impacts are not known by project appraisal, a framework approach is adopted. In this context, in accordance with the ESS1, an Environmental and Social Management Framework (ESMF) has been prepared.

Therefore, this ESMF provides guidance for assessing sub project specific E&S Risk & Impacts and also provides triggers for specialized studies e.g., Environmental and Social Impact Assessment and Environmental and Social Management Plan (ESIA& ESMP), Social Impact Assessment (SIA) and development of Resettlement Action Plan (RAP) & as well as specific studies such as Biodiversity Assessment etc. to be conducted when a sub-project encounters such issues for more focused attention/measures. Additionally, guidelines/procedure/plans to address Gender, Labor and Stakeholders issues etc. including institutional mechanism for implementing/monitoring the E&S management during the project execution and operation & maintenance phase have also been included in this ESMF.

The Project being financed by the International Development Association will be implemented by the Ministry of Energy of the Kyrgyz Republic.

The ESMF outlines expected environmental and social risks and impacts of the project and to provide a system for monitoring and managing such impacts during project implementation. Additionally, this framework describes institutional roles and responsibilities for managing environmental and social risks under the project, and the feedback and grievance mechanisms by which citizens and other interested parties can interact with the project implementation agency.

## **2.0 PROJECT OVERVIEW**

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The KRED project comprises of four components mainly:

**Component 1: Rehabilitation and Construction of Small and Medium-scale Hydropower Plants (estimated US\$ 39 million IDA financing).** This component will support priority investments and provide technical assistance and capacity building activities aimed at increasing hydro capacity in the country. Chakan HPP shall be responsible for implementation of this Component 1, which comprises the following two subcomponents:

***Sub-component 1.1: Construction of new hydropower plant and rehabilitation of existing hydropower plant.*** MoE and Chakan HPP is provided shortlisted subproject to be financed under this subcomponent which include Karakul, Tar, and Bystrovka HPPs, of which the first two are for new construction and the last one is for reconstruction. Proposed subprojects technical parameters are given below.

<b>Item #</b>	<b>Subproject name</b>	<b>Dam height, m</b>	<b>Reservoir size, million m<sup>3</sup></b>	<b>Capacity, MW</b>	<b>Type of work</b>
1.	Karakul HPP	8	0,05	29	Construction
2.	Tar HPP lower	24	1,6	19	Construction
3.	Bystrovka HPP (run of river)	-	Run of river	8.7	Reconstruction

The one of the proposed subproject for new construction is Karakul HPP which located in Karakul city of Jalal-Abad oblast. A substation may be required for this HPP. If there will be a substation, then it will be constructed on the territory allotted for the HPP - no additional land is required for it. Power line for new HPP may also be required. But power line route is not identified. Details of HPP, substation and lines are not known at this stage and will be identified upon the results of feasibility study. Possible social and environmental risks and impacts will also be determined only after ESIA.

The another new HPP is Tar HPP lower located in Kara-Kulzha rayon of Osh oblast. Same as for the above HPP, a substation may be required. If there will be a substation, then it will be constructed on the territory allotted for the HPP - no additional land is required for it. Power line for new HPP may also be required. But power line route is not identified. Details of HPP, substation and lines are

not known at this stage and will be identified upon the results of feasibility study. Possible social and environmental risks and impacts will also be determined only after ESIA.

Bystrovka HPP is an existing one. It has its own infrastructure. Only reconstruction works will be carried out in this subproject. All reconstruction activities will be held on the territory of the subproject. No structures and lands are required for this. Reconstruction works will not have any adverse impacts for environment and population near the HPP. There may be temporary impacts for population during reconstruction works.

***Sub-component 1.2: This subcomponent will finance provision of technical assistance and capacity building to Chakan HPP to support project implementation.*** The specific technical assistance activities will include: (i) finalization of the feasibility study and preparation of the bid documents for the selected hydropower projects; (ii) preparation of safeguards documents; (iii) consulting services for construction supervision and implementation of safeguards instruments as needed; (iv) feasibility studies for rehabilitation and construction hydropower projects in the future; and (v) training and capacity building for dam safety and optimization of hydro reservoirs to support integration of solar energy

**Component 2: Technical Assistance to Preparation of Kamarata-1 Large Hydropower Plant (estimated US\$ 2 million IDA financing).** The activities covered under this component include the update of the feasibility study, environmental and social studies and the draft of procurement documents and implementation agreements. Given the large investment needs (approximately US\$2.9 billion according to the feasibility study 2014), this work will be complemented by Bank-executed technical assistance to evaluate potential financing options, including potential phasing, co-financing options and potential role of PPP approach. EPP shall be responsible for implementation of Component 2.

**Component 3: Preparation and Grid Integration of Renewable Energy Projects.** This component will prepare the power system for increased deployment and integration of variable renewable energy, with a focus on supporting the solar pilot project, which is planned in Phase 2 using World Bank guarantee instrument. The Component shall comprise the following two sub-components:

***Sub-component 3.1: Grid enforcement and strengthening to facilitate integration of hydro and solar power (estimated US\$ 10 million potential GCF financing).*** This subcomponent will finance upgrading and strengthening of existing grid infrastructure to facilitate the development of large-scale renewable energy.

***Sub-component 3.2: Technical assistance and capacity building (estimated US\$2 million potential GCF grant financing).*** This subcomponent will finance provision of technical assistance and capacity building to MoE, NEGK and other key stakeholders to enhance institutional capacity for managing the development and integration of large-scale solar power. The specific activities under

the subcomponent could include: (i) the development and implementation of grid code, such as connecting code for renewable energy; (ii) policy and regulatory review and assessments to strengthen regulatory and institutional frameworks for renewable energy development; (iii) the development and implementation of measures for short term demand forecasting , including sub-hourly forecast for near-real time; and day ahead, month-ahead, year-ahead forecast for planning, and sub-hourly wind and solar power forecast; (iv) enhancement of the means, tools, and procedures for planning and managing different types of reserves and dispatching protocols and procedures; (v) feasibility studies for solar and wind projects, including wind and solar resource measurement as well as environmental and social impact assessment; and (vi) training and capacity building.

Two options are being proposed by the NEGK to be financed under Component 3 to strengthen the Power grid to facilitate integration of hydro and solar energy activities.

**Option 1:** Construction of the 220kV Isanova substation and 220-110kV overhead lines.

**Option 2:** modernization of automation systems. Both options are under World Bank's review.

If the option 1 is selected, 220 kV Isanova substation with a new overhead line of 220kV will be reconstructed/augmented. The power line is needed, but the route is not known. The territory for the substation has been allotted, no additional land is required. No other structures (warehouses) will be required. Possible social and environmental risks and impacts will also be determined during KRED implementation.

If the option 2 is selected, the existing system of emergency automatics together with SCADA and other similar systems in the existing networks will be improved in order to improve the reliability and safety of the power system. This will not require any additional facilities or warehouses. NEGK will upgrade its equipment of automation systems in the existing grids. There will be no any significant adverse social or environment impacts under this activity. Technical details of the substation and lines are not known at this stage and will be identified upon the results of feasibility study.

**Component 4: Institutional Strengthening and Project Implementation Support (estimated US\$ 1.5 million including US\$ 1million from IDA financing and US\$ 0.5 million from GCF grant).** This component will finance activities aimed at strengthening the energy companies' technical, operational and management functions, and ensuring effective Project implementation.

### **3.0 PROJECT BENEFICIARIES**

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Beneficiaries of Phase 1 of the Project are the electricity consumers, including industrial, commercial, and residential customers. The newly constructed and rehabilitated hydropower plants under this phase will help increase power supply in the Kyrgyz Republic and improve the quality of power in the country. In addition, the local population is expected to benefit to a certain extent from employment opportunities during the repair and rehabilitation phases. The implementing agencies

will also benefit significantly from the capacity building and technical assistance they will receive, which will improve their capacity to plan, develop, manage, and maintain existing hydropower systems and services. Consequently, they will be able to deliver better, more reliable, and cost-effective services to customers.

In addition, it will also be ensured that ensuing benefits like compensation at replacement cost to all PAPs including vulnerable, marginalised, and disadvantaged groups for any adverse impact in accordance to provisions of RPF are provided to all affected persons. MoE/PMO will also ensure that no person or community are disproportionately impacted to the extent possible and all possible measures in accordance to mitigation hierarchy shall be implemented as prescribed in ESMF.

#### **4.0 PROJECT LOCATIONS**

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The project activities will be implemented in Osh, Jalal-Abad, and Chui oblasts under all four components.

#### **5.0 PROJECT IMPLEMENTATION ARRANGEMENTS**

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The implementation arrangements of the proposed project will build on the current arrangement under Electricity Sector Modernization and Sustainability Project (KEMS), where a Project Management Office (PMO) is being established with key staff being hired including procurement, financial management and disbursement, E&S specialists. The same PMO will implement this proposed project, with enhanced capacity from additional specialists as needed and the Government of the Kyrgyz Republic will be committed to ensuring that the MoE PMO will be staffed with relevant qualified staff responsible for implementation of the safeguards functions as per the Bank's ESS and capacity building activities as per the KRED ESCP agreed between the MoE and the Bank. This ESCP specifies the main responsibilities and actions to be undertaken by MoE to ensure project, compliance with the WB ESSs. Meanwhile, MoE has instructed Joint Stock Companies: Chakan HPP, EPP and NEGK to support the project preparation including coordination and preparation of required project documents. The PMO being established under MoE is headed by a Director and will have dedicated teams of staff to work on environmental and social standards, procurement, financial management, accounting and internal auditing disbursement.

#### **6.0 POLICY/LEGAL FRAMEWORK**

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The legal framework for environmental and social issues in the Kyrgyz Republic is well developed and all project activities are regulated by several laws and regulations including applicable Civil, Land and Labor codes. As per Kyrgyz law, construction of new HPPs or rehabilitation of existing ones requires ESIA to be conducted. Hence, environmental and social impacts will be analyzed for all sites covered under Components 1 and 2 during project implementation in line with the requirements of this ESMF and findings from this assessment will inform the implementation of works at each site. In addition to national legislation and regulations on environmental and social



issues, the Kyrgyz Republic is also signatory to several international treaties dealing with environmental and social issues, provisions of which are also obligatory to be followed.

The World Bank's Environmental and Social Standards relevant to proposed the project have been identified and gaps in national or state regulations considered while formulation of ESMF.

## **7.0 THE PROJECT RISK RATING AND RELEVANCE OF THE WORLD BANK ENVIRONMENTAL AND SOCIAL STANDARDS (ESS)**

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The project recognizes the following standards as relevant: ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6, ESS 8 and ESS 10. The environmental and social risks are both rated as High mainly due to the activities under the Component 2.1 TA activities for Kambar-Ata-1 HPP. The project also triggers OP/BP7.50 on International Waterways.

Direct and indirect environmental risks and adverse impacts are expected under all components of the project. The project environmental risk is rated **High** mainly due to the activities under the Component 2.1, which is expected to finance TA for preparatory studies for a large Kambar-Ata-1 HPP (1.6GW, 160-260m dam). While the project will not finance any civil works at Kambar-Ata-1 HPP, it may indirectly cause significant environmental impacts through development of feasibility studies, ESAs and bidding documents that may be further used for the construction purposes. The potential environmental risks and impacts may lead to permanent inundation of the reservoir area and permanent changes in landscapes, impacts on river flows, quality and morphology; terrestrial and aquatic ecosystems, ecosystem services and disturbance to biodiversity; pollution and waste disposal during construction, vibration impacts from blasting and heavy equipment, changes in hydrology of the Naryn river.

Occupational and community health and safety risks and impacts are also expected to be adverse and significant considering the large number of workers to be deployed at the site during construction; the project also requires substantial security measures to protect the large site. This is also relevant to other soft-type activities under the project: (i) TA to support development of key studies for other priority investment projects under Component 1.2; (iv) TA for development of key studies for other renewable energy projects under Component 3.2.

The exact location and scale of hard-type activities under the Component 1 and Component 3 are not yet finalized, and will be further selected during project preparation. Component 1 on rehabilitation and construction of small and medium scale hydropower plants, and under Component 3.1 NEGK provided a list of two options. First option is to construct of the 220 kV Isanova substation and 220-110kV overhead lines, the second option is a transition and implementation from manual control of the power system to automation of the work of dispatch control emergency automation. Both options are being reviewed by the Bank. The above-mentioned activities will have potential

direct adverse environmental impacts during construction and implementation stage. The works are expected on small and medium HPPs, which may include Karakul and Kara-Kulzha areas around larger HPP plants, though more sites can be added/removed during the project preparation. The risks relate to: i) increased pollution due to construction waste; (ii) generation of dust, noise and vibration due to movement of construction machinery; (iii) disturbance and pollution of natural ecosystems and biodiversity; (iv) spills of fuel and lubricants during construction; (v) landscape disturbance; (vi) water pollution and sedimentation. Additional risks associated with construction of new HPPs might relate to conversion of aquatic and terrestrial habitats, changes in in-stream flows and fish entrainment. Stream morphology and sediment management and general pollution prevention and control and reservoir management, which covers water quality and reservoir erosion, slope stability and sedimentation should also be monitored. Cumulative impacts of the project activities on HPPs may lead to direct natural habitat loss from the accumulated project footprints, aquatic habitat fragmentation due to the isolation of river reaches and habitats between impoundments/barriers, or degradation of ecosystem services due to the fundamental alteration of hydrological conditions and sediment and nutrient transport along the length of a river to its estuary. Also, risks and adverse impacts of both components relate to Occupational Health and Safety (OHS) hazards related to working at heights for assembly of towers and stringing, and electrical works, health impacts of low levels of electromagnetic radiation, those related to the use and disposal of hazardous materials such as transformer oils and possibility of poly-chlorinated biphenyl's (PCBs) in obsolete transformers. Most of these risks and adverse impacts are temporary, localized, mitigable and mainly expected to occur at the construction stage under Components 1 and 3.

The social risk is rated as High given the potential indirect social impact from the Component 2.1 TA activities for Kamar-Ata-1 HPP. The TA activities include undertaking and updating of a feasibility study, basic design and bid documents for the future planned Kamar-Ata 1, including developing and updating the environmental impact assessment study and land acquisition and resettlement plans. The potential indirect risks include: (1) stakeholder and citizen engagement in a project due to economic and physical displacement, worker retrenchment, and restoration of economic activities, if any; (2) potential resettlement; (3) establishment of an effective grievance mechanism for handling a potentially large volume of complaints; (4) labor management challenges, including working terms and conditions, OHS, and the establishment of safe and effective work camps; (5) community health and safety issues. These risks will be further assessed during project preparation. The activities under the components 1 and 2 may also require land acquisition, restriction on land use or involuntary resettlement due to rehabilitation and new construction works. The proposed Project interventions are expected to take place on public land, as suggested by the MoE, however the scale is not known at this stage and the sites will be further selected during project preparation.

Other social risks under the Component 1 may also have impacts on livelihoods downstream, such as fishing, availability of irrigation water supply, impacts on lands cultivated on the river basin.

Risks related to child and forced labor are considered to be low as per specific type of activities in the energy sector. Labor management and influx risks under ESS2 as well as possible impact on community health and safety under ESS4, including Sexual Exploitation and Abuse (SEA) /Sexual Harassment (SH) maybe moderate under TA for Kamar-Ata-1 due to significant scope of the works beyond the project, and low under components 1 and 3. This to be re-assessed and confirmed throughout project preparation and implementation, and in case if workers are recruited externally, contractors will be required to adopt and comply with specific E&S risks mitigation instruments. Risks of social exclusion can occur during engagement with (i) the development community to motivate the private sector to consider investing in the country's energy sector through the TA under Phase I and (ii) project beneficiaries and affected parties during project preparation and implementation. The engagement process should consider including stakeholder analysis and engagement planning, public disclosure of information, and meaningful consultation with all stakeholders with special attention to the needs of the disadvantaged and vulnerable groups and women's participation in project activities. The more detailed scope of anticipated risk and impacts associated with these components will only be known once the ESA studies have been completed. The potential impacts will be assessed in the ESA as part of feasibility study for and further to be updated based on detailed design at the project implementation stage. MoE capacity to manage E&S risks and impacts has also been considered in the overall E&S risk rating. Although the 3 PIUs have limited experience in implementing Bank funded projects under the ESF, the Borrower will rely on capacity building planned under each component. Considering all the above issues, the social risk is rated as High, it will be revisited (prior to Appraisal) based on a further assessment made during preparation.

The Project is expected to have mostly positive social impacts as it will improve resilience of energy services which is important for continued operation of critical infrastructure and to provide mitigation and adaptation service to the people. Access to power and ensuring reliable electricity contribute to health, livelihood, and gender benefits.

Moreover, ensuring reliable electricity supply contributes to improved public services, increasing economic and empowerment opportunities for women as well as overall better safety and health. Two categories of social risks are recognized: one, as related to the impacts of the project activities, mainly related to land acquisition and land use restrictions, and livelihoods downstream; and the other, related to possible social exclusion during engagement with the potential investors and project affected parties, including vulnerable groups. The nature of impacts and extent of physical interventions will become clearer once the final designs of subprojects will be finalized. The following draft instruments will need to be prepared by appraisal: (i) Environmental and Social Management Framework (ESMF), including agreed TORs for ESIA for Component 2; (ii) Resettlement Policy Framework (RPF); (iii) Stakeholder Engagement Plan (SEP); (iv) Labor Management Procedures (LMP) and (v) Environmental and Social Commitment Plan. The ESMF will assess risks and impacts and guide appropriate mitigation measures to be taken for all components. The ESMF will include procedures to screen environmental and social risks of the

subprojects and guide the preparation of subproject-specific ESIAAs and ESMPs, including Biodiversity Assessment and Management Plans, if needed. It will include standard ESMP checklists, plans to manage hazardous waste, PCB waste, traffic management plans and other known E&S impacts and risks, as well as describe relevant legislations, institutional arrangements, and proposed capacity building measures. However, these likely impacts will be addressed through many measures including avoidance, minimization in that order of priority to the extent possible. The above listed risks is a key reason for classification of environmental and social risk of the project as High.

On the other hand, the proposed activities and subprojects financing will also enhance sustainability of the energy supply, which in general combines the introduction of new technologies, policies and activities aimed to integrate socio-economic principles with environmental concerns in order to increase electricity generation, and thus improve the quality of electricity in the regions of the Kyrgyz Republic.

In the screening process as per ESS 1, scoping of key environmental and social risks and impacts of the Project has been undertaken and appropriate mitigation measures identified, as laid out in this ESMF. Sub-project specific ESIAAs will be conducted prior to the implementation of activities. Specific risks and impacts are outlined in the ESMF and will be elaborated in the subsequent ESIAAs and ESMPs. Sub-component activities will employ contracted workers who will be subject to the provisions of LMP, SEP, GRM and World Bank Group Environment, Health and Safety Guidelines in compliance of ESS 2. The Project will provide GRM for community as well as to contracted workers. Additionally, each sub-project contractor will prepare a Construction-ESMP with labor protocol to address such issues. Measures to comply with ESS3 stipulations have been identified in light of the construction activities proposed. These include measures to mitigate air pollution including noise, land and water pollution, management of construction wastes such as muck/debris as well as hazardous waste. All activities will be compliant with the applicable regulations and ESS 4. The legislations and policy related to land acquisition and resettlement as well as provisions of ESS 5 shall be implemented in accordance with provisions of RPF. To the extent possible, Government land shall be secured for construction of HPPs and in case of private land, direct purchase on the principle of willing buyer-willing seller on negotiated rate using provisions of Kyrgyz Republic land purchase policy and RPF shall only be used. To ensure that ESS6 requirements are met, additional studies will be undertaken as part of site-specific ESIAAs, where required. The findings of the studies will inform the consequent ESMPs and relevant portions of the same will be integrated with the bidding documents and contracts. To facilitate compliance with ESS8, guidance on ‘chance find’ procedure, in line with Kyrgyz requirements are included to manage impacts on any artefacts found during construction / rehabilitation works.

The process of preliminary consultation has already commenced during the ESMF development to know the people’s opinion about project, which will be further expanded during finalization of

ESMF. However, a detailed Stakeholder Engagement Plan (SEP) with mapping out all the different types of stakeholders, timings and modes of communication and consultation has also been prepared for implementation during ESIA and project execution. The Plan linked the GRM with the SEP to address the issue of transparency and feedback. ESS 10 recognizes the importance of open and transparent engagement vis-à-vis project stakeholders by the borrower.

## **8.0 POTENTIAL ENVIRONMENTAL & SOCIAL IMPACTS & MITIGATION MEASURES**

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Screening of potential environmental & social risks & impacts of proposed project components has been undertaken considering the existing baseline environmental and social setting of project area. The proposed sub-projects are likely to create positive as well as negative impacts on the environmental and social setting.

Potential environmental risks and impacts may lead to permanent flooding of the reservoir area and permanent landscape changes, impacts on river flow, quality and morphology; ecosystems, ecosystem services and biodiversity loss; pollution and waste disposal during construction, vibration impacts from blasting and heavy equipment, changes in the hydrological regime of the Naryn River. While The locations are not finalized, as per currently available information, no critical habitats are likely to be impacted by these activities as these are more than 10km from potential sites. Detailed studies under 1.2 for small HPPs and Component 2 for Kamar Ata 1, will be undertaken during project implementation. Detailed ESIA/ESMP will confirm this as required by the ToR for site specific assessments.

In addition, the laying of power lines from the hydroelectric power station will also be designed, which will be carried out along a special route to the converter substation to the existing power lines. Accordingly, the installation of large wire supports will require the construction of an access road, which will be permanent in the future, for maintenance of power lines and preventive maintenance. Accordingly, such works related to the laying of new lines and roads will have certain environmental & social impacts from the implementation of the necessary energy transmission operations (this type of impact applies to all projected HPPs).

In the case of the Isanova substation (3 Component), during the installation of the substation and the laying of an underground cable from it, it will be carried out in special trenches. Works related to the laying of new trenches will also have a certain impact on the environment. When laying an overhead line from a substation, it will cause less impact, and the implementation in this case will be less than in the first case.

The implementation of the project will have direct and indirect social risks and impacts. The potential indirect social risks under Component 2 will include: (1) stakeholder and citizen engagement in a project due to economic and physical displacement, worker retrenchment, and

restoration of economic activities, if any; (2) potential resettlement; (3) establishment of an effective grievance mechanism for handling a potentially large volume of complaints; (4) labor management challenges, including working terms and conditions, OHS, and the establishment of safe and effective work camps; (5) community health and safety issues. Other social risks under the Component 1 may also have impacts on livelihoods downstream, such as fishing, availability of irrigation water supply, impacts on lands cultivated on the river basin.

The risks under the components 1 and 2 may also require land acquisition, restriction on land use or involuntary resettlement due to rehabilitation and new construction works. The proposed Project interventions are expected to take place on public land, as suggested by the Client, however the scale is not known at this stage and the sites will be further selected during project preparation.

Risks related to child and forced labor are considered to be low as per specific type of activities in the energy sector. Labor management and influx risks as well as possible impact on community health and safety, including Sexual Exploitation and Abuse (SEA) /Sexual Harassment (SH) maybe moderate under TA for Kamar-Ata-1 due to significant scope of the works beyond the project, and low under components 1 and 3.

Risks of social exclusion can occur during engagement with (i) the development community to motivate the private sector to consider investing in the country's energy sector through the TA under Phase I and (ii) project beneficiaries and affected parties during project preparation and implementation. The engagement process should consider including stakeholder analysis and engagement planning, public disclosure of information, and meaningful consultation with all stakeholders with special attention to the needs of the disadvantaged and vulnerable groups and women's participation in project activities. The more detailed scope of anticipated risk and impacts associated with these components will only be known once the ESIA studies have been completed.

## **9.0 ENVIRONMENTAL & SOCIAL MANAGEMENT PLAN**

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The basic purpose of the ESMF is to design/formulate mitigative measures and plan for assessment and management protocol to address identified/potential environmental & social risk/impacts during implementation & operation stage. The ESMF is designed on the principles of avoidance, minimization & mitigation, including offsetting /compensating any residual issues to meet the requirement of sustainable development and compliance of Bank's ESSs.

The nature of impacts and scope of activities will be clarified once the subproject designs under components 1 and 3 are finalized. Site specific ESIA will assess the risks and impacts, and provide recommendations on appropriate mitigation measures to be performed for each site by results of which ESMP will be prepared. It is also required to prepare a Terms of Reference (ToR) for ESIA for Kamar-Ata-1 HPP under Component 2. Moreover, vulnerable and aggrieved groups have been identified through the SEP, and will be consulted, and their concerns and views considered in ESIA, SEP, RPF and project design. The Borrower will conduct meaningful and coordinated consultations with stakeholders under the project related to prepared instruments (ESIA, RPF, SEP).

## **10.0 CAPACITY BUILDING AND TRAINING:**

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The project will conduct special trainings to ensure effective project implementation and a clear understanding of the environmental and social risk management requirements under the World Bank's ESS. Due to the high E&S risk associated with the proposed project, a comprehensive training/skill enhancement programme is needed for EA staff in general and E&S staff in particular to ensure effective implementation of safeguard issues as well as to meet the requirements of the WB ESS.

To meet above requirements, PMO will involve a consultant with knowledge of national environmental and social management requirements, as well as substantial knowledge of the World Bank ESSs requirements for developing different training modules for EA staff including the E&S specialist after assessing the requirement and will then conduct the same. The broad training topics will include the basic requirements of the World Bank's ESS, ESIA, ESMP, OHS, LMP and RAP implementation etc. including exposure to best international practices on E&S management. The budget provision of USD 50 000 has also been made in ESMF. The trained E&S staff of PMO shall act as trainer for E&S staff of Contractors on E&S requirements and specific contract conditions on safeguards. In addition, the World Bank will organize training during project implementation to respective PMO staff and other involved agencies within the first year of the project implementation, in order of relevance, followed by, at minimum, annual refresher trainings as needed throughout project implementation. Also, training for project workers is expected to be delivered by the contractors at the commencement of engagement of project workers, followed by, at minimum, one annual refresher training.

## **11.0 INSTITUTIONAL ARRANGEMENT**

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The MoE will be responsible for managing the entire multiphase program with Chakan, EPP, NEGK respectively providing full technical support under their components as appropriate. A Project Steering Committee, chaired by MoE and involving key stakeholders, shall be established to facilitate coordination and provide strategic advice during implementation. The World Bank will conclude Project Agreements with the implementing entity/ies. While initial discussions were that Chakan, EPP, and NEGK to be the project implementing units (PIU) for Component 1, 2 and 3 respectively, the option of one Project Management Office (PMO) under the MoE is likely to prevail. In the latter case, Chakan, EPP and NEGK will provide all necessary technical support to the PMO during preparation and implementation of the project. The MoE will be the coordinating and implementing Ministry responsible for the overall coordination of the project (including with the President's Office, the Ministry of Finance, and line ministries and agencies). The MoE will also generally manage the project through the PMO, and the Deputy Minister of Energy will have overall responsibility for ensuring unhindered and high-quality implementation of the project. It will also

be the responsibility of the MoE to review and approve the annual work plans and budget (prepared by the PMO), providing relevant technical inputs, especially at the strategic and policy level or on issues related to economic stimulus.

The PMO shall be responsible for all fiduciary functions (e.g., purchasing, financial management, preparation of annual reports, budgets, etc.). It will also be responsible for coordinating and supervising technical, and environmental and social (E&S) standards-related requirements of relevant components. It's expected that PMO will have a staff including environmental, social and OHS specialists capable to manage E&S risks and OHS, which will be also working closely with each of the Project beneficiary institutions (Chakan, EPP and NEGK). The type and number of specialists to be hired as a local staff and additional consultants (if needed) will be defined during the project preparation stage, once the implementation arrangements are finalized. Chakan and EPP companies and MoE have limited experience and capacity for implementing MDB-funded projects. NEGK is implementing CASA-1000 one Bank-financed project under the Operational Policies (OP), and is staffed with proper environmental and social specialists, who should be sufficient to support grid lines and substations construction. EPP has experience with MDB-financed projects, has developed internal capacity through the implementation of ADB project on Toktogul Hydropower plant rehabilitation and has existing PIU. Chakan is building its capacity by implementing ADB funded solar power project. Recently, the Electricity Sector Modernization and Sustainability Project (P177871) under the ESF has been prepared by MoE with assistance of the short-term environmental and social consultants. It is the first project under ESF which will be implemented by MoE. Based on the PMO capacity assessment results, the project will provide capacity building assistance for established PIUs to ensure full compliance with the ESSs.

Chakan HPP prepared a shortlist of three small HPPs - Karakul, Tar and Bystrovska HPPs. Chakan HPP is responsible for component 1: Rehabilitation and construction of small and medium hydropower plants. For component 2: Technical assistance in the preparation of the Kambarata large HPP-1, JSC EPP is responsible for implementation. OJSC NEGK is implementing Component 3, which includes physical investments to modernize and strengthen the transmission system, as well as technical assistance and capacity building activities to improve system operating conditions and strengthen institutional capacity.

MoE has staff positions in the procurement, financial management, and technical fields. PMO will also hire Environmental and Social Specialists, who will oversee the overall coordination of the implementation of project specific ESIA, ESMP, RAP etc., and will report to the Ministry of Energy and the WB on the integration of E&S requirements into procurement documents and contracts.

The contractors must work in full compliance with national environmental and social legislation and as well as according to the ESMP, LMP and OHS requirements that meet WB ESSs. In addition, contractors are required to comply with the national legislation related to road safety, occupational



health and safety; Life & fire safety; environmental protection; and community health and safety. All ESMP-related activities will be funded by contractors in line with Contractors' ESMP (C-ESMP) that will be prepared before commencement of works and approved by the designated Engineer/Supervision Consultant for each subproject. Contractors will also be asked to designate a person responsible for environmental, social, health and safety issues as well as ESMP implementation. Similarly, to ensure effective implementation of the ESMP, the beneficiaries of the subprojects under Components 1 and 3, in most cases local municipalities, will also appoint responsible persons with the main tasks of overseeing the implementation of the subprojects and reporting to the Ministry of Energy/PMO on all environmental, social, health and safety issues.

## **12.0 GRIEVANCE REDRESS MECHANISM & DISCLOSURES**

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To facilitate timely, effective and efficient resolution of grievances and complaints to the satisfaction of all parties involved a 3 tier Grievance Redress Mechanism is developed for the proposed project. The GRM provides a transparent and credible process for achieving fair, effective and lasting results. GRM also enhances trust and cooperation as an integral component of broader community consultation that promotes corrective action.

**Territorial department** of the energy companies at the **first level**, who are responsible for helping members of the community and other social work (conflict resolution, overall community upkeep, etc.). Their responsibility is to receive/register a grievance, then communicate it to the PMO and assist in the process of reviewing and responding to applicants.

At the **second level**, the **PMO Social Specialist** will register grievance in the Grievance Log, review and respond to the applicant. The Social Specialist of the PMO will report on the status of handling complaints on a monthly basis.

At the **third level** a **Grievance Redress Commission (GRC)** will be formed, including the MoE KR and PMO representatives, district and local level office managers, and one village leader as needed. GRC will resolve issues that were not resolved at the first and second levels or matters that came directly to the PMO or MoE. To promote the transparent and efficient implementation of the project, the PMO and MoE KR will accept and investigate queries from any Project-affected parties, including anonymous queries.

The Project GRM does not prevent applying to a court in accordance with the legislation of the Kyrgyz Republic. If a grievance resolution requires special verification (consideration), additional materials or other measures, the terms for resolution may be extended but not more than for 30 calendar days in accordance with the Law of the Kyrgyz Republic "On Procedure of Handling Public Appeals", No. 67, dated May 4, 2007. Anonymous complaints will also be considered under the Project and relevant measures will be undertaken.

### **Grievance Log**

All incoming grievances, queries, suggestions shall be subject to registration in the Grievance Log. The log information is copied and included into the e-database. The e-database must contain at minimum the relevant information about filing date, registration number, essence of the issue,

responsible person, time for resolving the complaint and feedback (positive or negative). The specialist shall track the process of consideration of a complaint based on its registration number.

Provisions of easy access & confidentiality on sensitive issues particularly of SEA/SH nature have also been made part of GRM to avoid fear and retribution of complaint. The contractor will be responsible for developing the workforce management procedure, occupational health and safety plans as well as SEA/SH protocols which will apply to their own and subcontractors' employees who work on the Project. These procedures and plans will be submitted to PMO for review and approval before the contractors are allowed to mobilize to the field of construction.

In addition to seeking to resolve their grievances through the GRM communities and individuals adversely affected by a World Bank (WB) supported project such as this operation may also submit complaints to the Grievance Redressal Service (GRS) established by the World Bank. The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns.

### **13.0 INFORMATION DISCLOSURE AND CONSULTATIONS**

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Through the process of consultation and disclosures, MoE/OJSCs would envisage to build participation of stakeholders' at each stage of project planning and implementation. MoE would be responsible not only for ensuring participation of the community in the consultation process but to make it effective ensure integration of the feedback received from stakeholder into the project plans where it deems fit. A dedicated and comprehensive Stakeholders Engagement Plan (SEP) is being developed by the Ministry of Energy of the Kyrgyz Republic (MoE) for the KRED Project. The SEP is developed in accordance with the recommendations and requirements of the Environmental and Social Standard, ESS 10 of the World Bank and is a part of social and environmental assessment of the Project. The SEP as one of the main Project documents will support the Project management and implementation. Along with measures to minimize adverse impacts of the Project, the open social engagement is part of the Project's cohesive approach to maintaining positive relationships with the local community and other stakeholders under the Project.

During project preparation an extensive mapping of the stakeholders shall be carried out to identify individuals and groups likely to be affected directly or indirectly, vulnerable groups and other interested parties such as government agencies/ authorities and NGOs, which may differ between subprojects, will be done during implementation. Meaningful consultation will be carried out on an ongoing basis as the nature of issues, impacts and opportunities evolves. Meaningful consultation is a two-way process, that: (a) Begins early in the project planning process to gather initial views on the project proposal and inform project design; (b) Encourages stakeholder feedback, particularly as a way of informing project design and engagement by stakeholders in the identification and mitigation of environmental and social risks and impacts; (c) Continues on an ongoing basis, as risks and impacts arise; (d) Is based on the prior disclosure and dissemination of relevant, transparent, objective, meaningful and easily accessible information in a timeframe that enables meaningful consultations with stakeholders in a culturally appropriate format, in relevant local language(s) and is understandable to stakeholders; (e) Considers and responds to feedback; (f) Supports active and

inclusive engagement with project-affected parties; (g) Is free of external manipulation, interference, coercion, discrimination, and intimidation; and (h) Is documented and disclosed by the Borrower.

The information disclosure would provide citizen centric information on the policies and the details of sub-projects along with its implementation process of KRED. It would be carried out in accordance to the World Bank's Environmental and Social Standard 10 on Stakeholder Engagement and Information Disclosure. The KRED Information Disclosure Procedure would ensure that information concerning safeguard documents of the KRED's activities is made available to the public in the local language without any confidentiality. The feedback of the project affected persons/citizens would be captured through the Project Management Office and conveyed to MoE/OJSC/Contractors for necessary action.

#### **14.0 MONITORING AND EVALUATION**

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The MoE PMO will ensure the overall coordination of the Project. The PMO will be staffed with highly qualified specialists in environmental and social measures who will deal with ESMF/ESIA/ESMP implementation. The MoE/PMO /JSC would monitor the implementation of the environmental and social safeguards in all subprojects to ensure conformity to the requirements of the ESMF/ESIA and ESMP.

In addition, the MoE PMO safeguards and engineering team will monitor compliance of environmental and social safeguards and submit regular quarterly monitoring reports on implementation of ESCP. The MoE PMO will also comply with the provisions of any other E&S documents required under the ESF, such as Environmental and Social Management Framework (ESMF), Resettlement Policy Framework (RPF), Environmental and Social Management Plans (ESMP), Resettlement Plans, Labor Management Procedures (LMP) and Stakeholder Engagement Plan (SEP), and the timelines specified in those E&S documents.

Compliance to ESMP should be reported by contractors to the MoE PMO, and then the PMO submits to the WB a semi-annual report. Environmental and social monitoring during implementation of subprojects should provide information on the key environmental and social aspects of subprojects, in particular its impact on the environment, social impacts of activities and the effectiveness of mitigation measures undertaken. This information will enable the PMO under to assess the success of mitigation measures and monitoring under the Project, and will allow to update activities, if necessary, in timely manner.

In addition to above, to ensure coordination and information sharing and timely decision-making on strategic and the program aspects at the highest level, the Project will be monitored by the KRED Inter-ministerial Steering Committee. Further, many Key Performance indicators (KPI) have also been developed to ensure effectiveness of monitoring and compliance status.

## **15.0 BUDGET FOR ESMF IMPLEMENTATION**

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A budget for the ESMF implementation will be allocated for PMO safeguards team hiring, as well as for training and awareness and the monitoring activities of Executive Agency – MoE and Implementing Agency such as Chakan, NEGK, EPP JSCs. This is currently estimated to be 1,639,000 USD. This includes the cost of hiring specialists, training, and preparation of site-specific ESIA. I

## **16.0 CONCLUSION**

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This ESMF is the result of an iterative process that has included collection of available data, consultations with stakeholders, short site visits, and review by experts. It applies to all components that will be covered in KRED project. Its findings indicate that while Kyrgyz legislation covers many aspects of the requirements of ESF, additional considerations need to be added for confirming compliance with the applicable ESSs viz. ESS1, 2, 3, 4, 5, 6,8, and 10. It provides guidance on the necessary mitigation measures required to address the potential Environmental and Social risks and impacts. It has analyzed the implementation arrangements and makes recommendations, including for strengthening PMO of the MoE, to facilitate the subsequent site/sub-project specific assessments to be carried out during implementation of KRED. At this stage of the project, MoE is of the opinion that this guidance is appropriate to support carrying out the necessary assessments to meet WB ESF requirements and for smooth implementation of the project in coming years.