

REPUBLIC OF TAJIKISTAN

Power Sector Financial Recovery (P168211)

Program-for-Results

Environmental and Social System Assessment

Draft Final Report

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Abbreviations and Acronyms

ACM	Asbestos-containing materials
ADB	Asian Development Bank
AES	Renewable Energy Association
AET	Association of Energy Workers of Tajikistan
AMI	Advanced Metering Infrastructure
BT	Barqi Tojik
CALISS	Central Asia Longitudinal Inclusive Society Survey
CASA-1000	Central Asia South Asia - 1000 Project
CEP	Committee on Environmental Protection
CHP	Combined heat and power plant
DCC	Development Coordination Council
DH	District Heating
DRS or RRS	Districts/Regions of Republic Subordination
EBRD	European Bank for Reconstruction and Development
EE	energy efficiency
EGI	Electricity Governance Initiative
EIA	Environmental Impact Assessment
ESMP	Environmental and Social Management Plan
ESSA	Environmental and Social Systems Assessment
FHH	Female Headed Household
GBAO	Gorno-Badakhshan Autonomous Oblast
GHG	Greenhouse Gases
GoT	Government of the Republic of Tajikistan
GWh	Gigawatt-hours
HPP	Hydropower Plant
INDC	Intended Nationally Determined Contribution
ILO	International Labour Organization
IPPs	Independent power producers
kWh	Kilowatt-hour
MEWR	Ministry of Energy and Water Resources
MOF	Ministry of Finance of the Republic of Tajikistan
MW	Megawatt
NGO	Non-governmental organization
OJSC	Open Joint Stock Company
PforR	Program-for-Results
PAP	Project Affected People
PCB	Polychlorinated biphenyl
PDO	Program Development Objectives
PEC	Pamir Energy Company
PIG	Project Implementation Unit
PMT	Proxy Means Testing
PMU	Project Management Unit
PMU ES	State Energy Sector Project Management Unit
POPs	Persistent Organic Pollutants
PPAs	Power Purchase Agreements
PPP	Purchasing Power Parity
PSFCP	Tajikistan Power Sector Financial Recovery Project
PSIA	poverty and social impact assessment
RSS	Reliability and Safety Service
SEE	State Ecological Expertise
SSEMP	Site-specific Environmental Management Plan
TALCO	Tajikistan Aluminum Company
T&D	Transmission and Distribution

TSA	Targeted Social Assistance Program
USAID	United States Agency for International Development
VAT	Value Added Tax
WB	World Bank

1. Sector Context and Program Description

1.1 Sector Context

1. The power sector is comprised of the vertically integrated energy company, Barqi Tojik (BT), three independent power producers (IPPs), and a concession in Gorno-Badakhshan Autonomous Oblast (GBAO) combining power generation and distribution. BT is fully owned by the Government. It owns and operates most of the electricity generating plants and is also responsible for electricity transmission, dispatch, and distribution services to around 8 million people in all regions of the country except for GBAO. Two of the IPPs – Sangtuda-1 and Sangtuda-2 hydropower plants (HPPs) – were constructed with investments from Russia and Iran, and supply electricity to BT under 20-year power purchase agreements (PPAs). Pamir Energy Company (PEC) generates and supplies electricity to around 200,000 people in GBAO under 25-year concession agreement.
2. The total annual gross electricity demand in BT service area was 17,114 GWh in 2017. The demand is highly seasonal, with a winter peak driven by reliance on electricity-based heating. On the contrary, there has been significant electricity surplus in the summer given the abundant hydropower resource. The winter peaks have reduced since resumption of district heating (DH) supply to some parts of the capital city of Dushanbe after commissioning of Dushanbe-2 CHP and gradual rehabilitation of DH network. The single largest industrial energy consumer is Tajikistan Aluminum Company (TALCO). Its demand has reduced from about 40-45 percent of total domestic consumption in 2009-2013 to 20-25 percent in 2014-2017 due to reduction in output from the plant as a result of depressed global prices of the final product; and due to implementation of energy efficiency measures at the plant.
3. In GBAO Pamir Energy Company (PEC) generates and supplies electricity to around 200,000 people under 25-year concession agreement (expires in 2026). The company constructed and currently operates ten medium and small HPPs, which account for 90 percent of the supply to consumers. Some electricity is also supplied to the GBAO grid from BT network. The total electricity demand in GBAO is estimated at 220 GWh per year. The supply reliability has significantly improved since the construction and rehabilitation of new HPPs in recent time, but additional investments would be required to connect 11,000 residential consumers and to meet the projected increase in electricity demand.
4. The power system is currently facing the key challenges below, which need to be addressed to ensure adequate and reliable electricity supply, and financially sustainable power sector.
5. **Challenge #1: Financial distress of BT with consequences for electricity supply reliability.** BT has been in financial distress due to: (a) below cost-recovery tariffs; (b) unsustainable and increasing debt levels; (c) low collection rates for billed electricity; (d) operational inefficiencies; (e) limited opportunities for electricity exports; (f) non-competitive procurement of portion of heavy fuel oil (HFO) required for CHPs; and (h) depreciation of TJS vs US\$. This has led to significant deterioration of financial standing of BT with severe cash flow shortages.
6. **Challenge #2: Lack of institutional capacity at BT in planning, accounting and financial reporting of BT.** The financial distress of BT is also caused by lack of planning of investments and expenditures and gaps in accounting and financial reporting. BT also needs to introduce proper planning of investments and expenditure into generation, transmission, and distribution. Currently, there is no generation expansion plan, which is prepared consistent with the principles of least economic cost planning. BT does not have a transmission and distribution investment program, which draws upon the planned generation investments, and takes into account the need for replacement of ageing and unreliable assets.
7. **Challenge #3: Reduction of electricity supply reliability.** The financial distress of BT impacted the reliability of electricity supply, which deteriorated due to: (a) dilapidation of the largest generation plants in the country; and (b) obsolescence and under-maintenance of power transmission and distribution networks.
8. **Challenge #4: Surplus energy in summer and limited regional connectivity.** After several years of complete isolation from the Central Asia Power System (CAPS) and only one 220 kV interconnection with Afghanistan, the country has been struggling to ensure sufficient electricity supply in winter and export all surplus energy from HPPs. This has resulted in significant foregone export revenues given that there is

an estimated average summer surplus of 3.5 billion kWh per year exclusive of additional supply from Rogun HPP.

9. **Challenge #5: 200,000 people without access to electricity.** About 2.5 percent of population does not have access to electricity. Most of the settlements without access are relatively new given rapid growth of population and in the service area of BT (primarily Khatlon region). The remaining settlements are in remote mountainous areas in GBAO. The most difficult areas to electrify are the settlements in Khatlon bordering with Afghanistan and in GBAO given the terrain and geographical remoteness from the network. The remaining settlements are located relatively close to the centralized network, are within the service areas of BT, and their connection hinges upon the financial standing of BT, which is currently struggling.

10. In order to improve the financial standing of the power sector, the Government has prepared BT Financial Recovery Program, which aims to improve its operational efficiency and improve its financial standing. The Government requested the World Bank and other development partners to finance the program. The lending instrument planned for the Program, to be supported by the World Bank, is Program-for-Results (PforR). As a part of PforR preparation, the Bank needs to complete an assessment of environmental and social systems of the Program. This report details the results of the Environmental and Social Systems Assessment (ESSA).

1.2 Program Description

11. The *Program development objectives* are to improve the financial viability of the power sector and increase the reliability of electricity supply.

12. The Program will be supporting the following key measures from the broader government program on financial recovery of BT.

Results Area 1: Achieving Financial Sustainability

- Implementation of cost-recovery tariff methodology and further optimization of end-user tariff structure would increase BT's operating cash flows;
- Functional regulator capable of reviewing and recommending approval of electricity tariffs as per new methodology;
- Restructuring of BT debts to MOF would materially reduce liabilities;
- Improvement of collection rates for billed energy would increase operating cash flow of BT;
- Reducing and maintaining level of inventory that is justified from the perspective of business operations and needs of BT;
- Write-off of fines and penalties to MOF for overdue debt service;
- Improvement of collection rate for billed electricity;
- Competitive purchase of equipment, materials, fuel, civil works, and consulting services above certain threshold value;
- Estimation and formal recognition of commercial energy losses of BT as per requirements of international financial institutions;
- Reduction of technical and commercial electricity losses.
- Expansion of billing and metering system to cover all service areas of BT, which would help to increase the billed electricity and collection rates for billed sales.

Results Area 2: Maintaining Electricity Supply Adequacy and Improving Electricity Supply Reliability

- Purchase of electricity from Sangtuda-1 IPP would help to avoid supply shortages;
- Implementation of the rehabilitation and upgrade of electricity transmission and distribution assets is essential for reduction of frequency of equipment failures and resulting electricity supply interruptions.

Result Area 3: Strengthening Governance, Investment Planning, and Transparency

- Strengthening of corporate governance;
- Economically justified and financially feasible sector investments;
- Increase of power sector transparency.

13. *PDO Level Results Indicators*. The PforR supports results in three areas: (i) improvement of financial viability of BT; (ii) improvement of reliability of electricity supply; and (c) strengthening of sector governance and transparency. The following outcome indicators will be used to measure achievement of the PDO:

- **PDO Level Outcome Indicator 1 (Custom)**: Reduction of cash deficit of BT, transmission, and distribution companies (% reduction of cash deficit).
- **PDO Level Outcome Indicator 2 (Custom)**: Reduction of equipment failures in electricity generation, transmission, and distribution (Number of equipment failures).
- **PDO Level Outcome Indicator 3 (Custom)**: New generation and T&D capital investment decisions are made by BT, transmission, and distribution companies considering sound economic, technical, and financial principals (Yes/No).

2 Environmental and Social Systems Assessment

14. The environmental and social (E&S) review of the Program requires assessment of existing environmental and social systems applicable to the Program, identification of gaps (if any), and recommendations to fill in those gaps to ensure sustainable environmental and social benefits. ESSA was prepared by the Bank's task team and the results will be discussed and agreed with BT, MEWR and other key government stakeholders.

15. ESSA derives its scope from the intended objectives of the Program, which relate to: policies including regulatory environment; rehabilitation and upgrade of key T&D assets; financial measures; and improvements in operational efficiencies. The above measures are unlikely to have any adverse impacts that cannot be mitigated if sound policies are in place. However, planned efforts are essential to ensure that project interventions do result in sustainable social and environmental benefits. Accordingly, a comprehensive assessment of environmental and social systems (ESSA) has been undertaken to gauge the adequacy of environmental and social systems, especially with focus of attention on BT.

2.1 ESSA Objective

16. The objective of ESSA is to ensure consistency with the core principles outlined in the Bank's Policy and Directive on Program-for-Results Financing (July 2015) in order to effectively manage program risks and promote sustainable development¹. These principles are:

- a. Promote environmental and social sustainability in the Program design - avoid, minimize, or mitigate adverse impacts, and promote informed decision making relating to the program's environmental and social impacts;
- b. Avoid, minimize, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program;
- c. Protect public and worker safety against the potential risks associated with:
 - Construction and/or operations of facilities or other operational practices under the Program; exposure to toxic chemicals, hazardous wastes, and other dangerous materials under the program; and reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards;
 - Manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement, and assists the affected people in improving, or at the minimum restoring, their livelihoods and living standards;
 - Give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of the Indigenous Peoples and to the needs or concerns of vulnerable groups; and
 - Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

17. The specific objectives of ESSA include:

- Identification of potential environmental and social benefits, risks and impacts applicable to the Program interventions;
- Review of the policy and legal framework related to management of environmental and social impacts of the Program interventions;
- Assessment of the institutional capacity for environmental and social management system within the Program system;

¹ Bank Policy, Programming for Results, July 2015.

- Assessment of the Program system performance with respect to the core principles of the PforR instrument and identification of gaps, if any, and
- Description of actions to be taken to fill the gaps, i.e. mitigation measures that will be used as input/s to the Program Action Plan.

18. The ESSA is prepared through review of existing Program documents and available related technical literature, and consultations with all key stakeholders, including BT, representatives of different consumer groups, NGOs, bilateral and multi-lateral development agencies, government officials and other experts. Field visits were made to Kulob, Panj, Hamadoni, Farkhor and Dushanbe regions that will include Program activities on regional power transmission and distribution network levels. The approach to preparation of the ESSA was participatory involving intensive consultations with various stakeholders. The assessment has also drawn upon the results of the poverty and social impact assessment (PSIA) carried out to estimate the distribution and poverty impacts of planned electricity tariff increases on vulnerable consumers. All these enabled identify the critical issues and/ or gaps and develop a Program Action Plan (including recommendations).

2.2 Consultations and Disclosure of ESSA

19. The extensive engagements with key stakeholders enabled managing expectations and the related issues/ concerns emanating from various stakeholders. List of field visits and people / agencies met is provided in Annex 1. The draft final ESSA and its findings will be consulted with key stakeholders at a workshop in Dushanbe on April 16-17, 2019. For this purpose, the hard copy of the ESSA in Tajik and English language will be disseminated among key stakeholders in advance of the meeting. The electronic copy of the document will be published at the web-site of the BT's website. The Government representatives, civil society, private sector, international donor agencies, energy facilities and representatives of nongovernment organizations will be invited. The feedback received from the public consultation will be incorporated into the final ESSA. The final ESSA report will be disclosed on BT's and Bank's websites prior to completion of the Program appraisal.

3 Legal and Regulatory Framework Applicable to Environmental Aspects of the Program

20. This chapter provides details on the environmental policies, laws, regulations as well as guidelines that are relevant to the activities proposed under the Program. It also provides an assessment of the adequacy of the coverage of environmental aspects in the legislative and regulatory framework.

3.1 Environmental Policies, Laws and Regulations

21. The environmental legislation is complex. It includes the Constitution, several strategic documents covering specific direct and cross-cutting environmental issues, such as state programs, international agreements to which Tajikistan is party and relevant National Plans (including National Implementation Plan of the Republic of Tajikistan on Realization of the Stockholm Convention on Persistent Organic Pollutants), basic (constitutional) codes and laws (like Water Code, Land Code, Forest Code), other laws, resolutions of the two chambers of the Parliament, Majlisi milli (National Assembly) and Majlisi Namoyandagon (Assembly of Representatives); decrees of the President; resolutions of the Government; resolutions of ministries, state committees and other state bodies; and acts of the local representative and executive authorities².

22. Basic environmental law is the "Framework Environment Law on Environment Protection," which stipulates that Tajikistan's environmental policy should give priority to environmental actions based on scientifically proven principles to combine economic and other activities that have an impact on the environment with nature preservation and the sustainable use of resources. The Law establishes several types of controls over compliance with environmental legislation: State control, ministerial control, enterprise control, and public control. State control is affected by the CEP, the Sanitary Inspectorate of the Ministry of Health, the Inspectorate for Industrial Safety and the Mining Inspectorate. Public control is carried out by public organizations or trade unions and can be exercised with respect to any governmental body, enterprise, entity or individual.

23. The Law on Ecological Expertise streamlines the procedures of environmental assessment of projects. It brought several procedural adjustments, such as introducing more flexibility into the duration of the State Ecological Expertise (SEE), which is now linked to the complexity of projects. The Law introduced the right for the public to participate in preparation (and not only the discussion) of EIA. It increased the rights in relation to the public ecological expertise, such as the obligation of the project developer to provide to the public project documentation of the same completeness and complexity as to the SEE.

24. These two laws stipulate all aspects of the *Environmental Impact Assessment (EIA)*. The Law on Environment Protection, introduces the concept of state ecological review (literally, state ecological "expertise" - SEE), which seeks to examine the compliance of proposed activities and projects with the requirements of environmental legislation and standards and ecological security of the society. The mentioned laws stipulate the mandatory cross-sectoral nature of SEE, which shall be scientifically justified, comprehensive, and objective and which shall lead to conclusions in accordance with the law. SEE precedes decision-making about activities that may have a negative impact on the environment. Financing of programs and projects is allowed only after a positive SEE and conclusion has been issued. A SEE should be conducted by the CEP, which has a comprehensive mandate that includes policy formulation and inspection duties. The CEP has divisions at each city or district. A special unit in the CEP is entrusted with guiding and managing both EIA and SEE. EIA is a component of the SEE and preparation of EIA is the responsibility of the proponents of the projects,

25. The State Ecological Expertise for all investment projects is the responsibility of the CEP and its regional offices. All civil works, including rehabilitation, should be assessed for their environmental impacts and the proposed mitigation measures reviewed and monitored by the CEP. A detailed project

² The full list of environmental laws and regulations are enclosed in Annex 2.

description and the EIA study are the basis to go for the environmental permit and have to be submitted to the CEP.

26. The Law on Environmental Monitoring describes the organization of the Consolidated State System of Environmental Monitoring and establishes the state register of environmental monitoring objects.

27. Environmental regulations and standards are also set for air and water pollution, noise, vibration, magnetic fields and other physical factors. Several ministries determine environmental quality standards, each in its field of responsibility. Standards are divided into national, territorial, sectoral and standards into account the requirements to means of production, transport, processes, raw and other materials, the working environment as well group protection of workers.

3.2 Adequacy of the Legislative Framework on Environmental Aspects

28. Developed and comprehensive system of environmental legislation and regulations provides an adequate enabling framework for implementing the key activities to be supported under the PforR. This system governs the procedure for conducting EIAs and state environmental expertise of Program activities as well as current environmental monitoring of activities, including rehabilitation and upgrade of power transmission and distribution (T&D) assets. Developed network of environmental monitoring by the CEP and municipalities based on existing environmental norms, technical guidelines and standards, with the right approach at the district and local level can successfully monitor environmental requirements during implementation of rehabilitation and upgrade of T&D assets under the Program. The country has made progress in recent years, including update of guidelines for EIA and SEE, and classification and ranking of potentially hazardous activities.

4 Legal and Regulatory Framework Applicable to Social Aspects of the Program

29. This chapter provides details on the social policies, laws, regulations as well as guidelines that are relevant to the activities proposed under the Program. It also provides an assessment of the adequacy of the coverage on social aspects in the legislative and regulatory framework.

4.1 Social Policies, Laws and Regulations

30. Social policies, laws and regulation in the context of the Program primarily relate to: social/consumer protection and public accountability. Some key laws and regulations that have relevance for social aspects of the Program are presented below.³

31. *Law on Consumer Rights*, among other things, regulates legal relations between the producers of goods and services, provides for the state and public protection of consumer rights, and describes the consumer right implementation mechanisms. The legal provisions of this Law also apply to energy users in cases when their consumer rights are violated. According to this Law, the energy users have right to be informed on the tariffs to be increased and associated investments to be made to justify the increases.

32. Chapter 5 of the *Law on Energy Savings and Energy Efficiency* underlines the necessity to implement information campaign on energy savings and efficiency among wide range of energy consumers. Based on this Law, BT is required to carry out information campaign on energy savings techniques among diverse range of users. The Program activities will be supported by the public communication strategy, which is being developed under the ongoing ESMAP-financed activity on Improvement of Power Tariff Setting and Mitigation of Social Impacts on the Poor (P167384) and which will be implemented by BT/power distribution company, to educate the key stakeholders about the ongoing power sector reforms, the necessity for the annual tariff increases, the necessity for such tariff increases, and the mechanisms to protect the poor.

33. *Law on Energy* (last amended in 2013) describes the specifics of the energy sector functioning in Tajikistan. In particular, Article 15 of Chapter 3 of the Law states about energy tariff setting in energy sector. The BT will follow the prescribed by the law procedures during the tariff setting and approval with the respective regulatory government structures.

34. *Law on Indexation of Population's Income due to the Price Growth on Consumer Goods and Services* (1997, never amended). The law guarantees the right of citizens receiving state pensions, social allowances, state salaries, stipends, work-related injury allowances to indexation. Due to inflation increases in 2017-2018, the recent increase in public sector salaries, state and social pensions was implemented in September 2018. This Law will serve as the legal framework for adoption and implementation of social mitigation measures to accompany the new electricity tariff methodology to be developed and implemented by the BT during the project implementation.

35. *Law on Natural Monopolies* describes the legal provisions on the state control over the goods, services and works provided by natural monopoly. It provides legal background for the GoT regulating and approving tariff-setting, updating and price ceilings for the goods, services and works provided by the natural monopolies, including BT.

36. *Law on Targeted Social Assistance* is a new law, which was adopted in 2017 and became effective starting from January 1, 2018. It provides the legal basis for the *Targeted Social Assistance (TSA) Program* piloted from 2011 in Tajikistan, which was introduced with the support by the Bank, and is currently in the process of being rolled out in the country. The TSA consolidates two largest social assistance programs (cash compensation for energy and gas services payments for poor households and reimbursement of school costs for poor households with school-age children) into a single benefit and uses a special formula to identify and target the poorest 15 percent of the population in Tajikistan.

37. As part of implementation of the TSA program, the National Registry of Social Protection has been established at the Agency for Social Protection of the Population under the Ministry of Health and Social

³ The full list of legislation and international treaties for which Tajikistan is a signatory is presented in Annex 2.

Protection of Tajikistan. The system allows entering applications in the database at the district level, further verification of the data at the central level in Dushanbe, approval of new benefits based on the results of the specialized Proxy-Means Testing (PMT) formula, administration of all payments through the network of the Amonatbank, and reconciliation of all payments, to ensure that assistance reaches the eligible recipients (tranches of TJS100 paid on quarterly basis or TJS400 (US\$42) a year per household, to be increased in 2019).

38. The new electricity tariff policy, which was approved by the Government of Tajikistan, stipulates establishing a compensation mechanism to protect poor families from negative impact of possible rising electricity costs. The TSA program approach could serve as an initial base of compensation mechanism to be considered within the new tariff methodology to be adopted and implemented under the Program. The TSA program will be used to identify the poor households, which may not afford to pay their electricity bills, and those will be registered as eligible beneficiaries for the social assistance to partly cover their energy costs. However, to make it an efficient compensation mechanism, the TSA program funding needs to be increased, which could be achieved through allocation of additional revenues that the state budget may receive given:

- a. Expected timely debt service payments by BT given gradual increase of electricity tariffs. Currently, the state budget receives very small amount of debt service payments from BT and services the debts to international financiers using its other tax revenue sources; and
- b. Increased taxes that would be paid by BT given expected increase in revenues driven by gradual tariff increases during the implementation of the Program.

39. *Law on Freedom of Information* is underpinned by Article 25 of the Constitution, which states that governmental agencies, social associations and officials are required to provide each person with the possibility of receiving and becoming acquainted with documents that affect her or his rights and interests, except in cases provided by the legislation. Based on this Law, the Project Affected People (PAP) have the right to access the Program related information.

40. According to the *Decree 'Approval of the Order of Costs Reimbursement Related to Provision of Information'* (adopted on January 1, 2010), all state institutions are allowed to charge fees for providing any kind of information to journalists and public officials. The decree states that one page of information provided should cost up to 35 Somoni (US\$8). The decree enables state officials to charge for photocopying official documents or extracts of official documents and for obtaining information from government officials in writing. Payment can be collected not only for the supply of printed information, but also for verbal information and clarification of legislative acts, decrees and regulations⁴. This decree has adverse impact on the low-income people, including PAP, who cannot afford to cover the costs associated with photocopying of documents from government agencies.

41. The 2014 *Law on Public Meetings, Demonstrations and Rallies* (Article 10) bans persons with a record of administrative offenses (i.e. non-criminal infractions) under Articles 106, 460, 479 and 480 of the Code for Administrative Offences from organizing gatherings⁵. Article 12 of the Law establishes that the gathering organizers must obtain permission from local administration fifteen days prior to organizing a mass gathering. These legal provisions will require advance planning and notification of respective government bodies about any public meetings to be held within the Program.

42. *Law of Republic of Tajikistan on Appeals of Individuals and Legal Entities* (from July 23, 2016, No 1339), contains legal provisions on established information channels for citizens to file their complaints, requests and grievances. Article 14 of the Law sets the timeframes for handling grievances, which is 15 days from the date of receipt that do not require additional study and research, and 30 days for the appeals that need additional study. These legal provisions will be taken into account by the Program-based Grievance Redress Mechanism.

⁴ 'Commercial Laws of Tajikistan: An Assessment by the EBRD'. Office of the General Counsel. April 2012. European Bank for Reconstruction and Development.

⁵ These provisions concern the hampering of gatherings (Article 106); disorderly conduct (Article 460); disobedience to police (Article 479); and violation of rules of conducting gatherings (Article 480).

43. It should be noted that the legislation related to land use and acquisition is not applicable to the activities to be supported under the Program. Within Results Area 2, the Program will support:

- a. Rehabilitation and upgrade of electricity transmission and distribution assets. These activities are not expected to require land acquisition or impact any other land users because they will be implemented in fully fenced (by concrete walls) areas of substations fully-owned by BT and which are not utilized for other purposes by anyone. The access to substation sites is possible by gravel or asphalted roads broad enough to take in heavy equipment and without causing any disruption to other land owners.
- b. Construction of low-voltage power distribution lines in settlements may require installation of narrow pylons (which requires a 1 square meter of land), on publicly-owned side-walks, which are not used for any other purposes. Thus, no land acquisition will be required.

4.2 Adequacy of the Legislative Framework on Social Aspects

44. The legal and regulatory framework at the national and regional levels provides an adequate and appropriate enabling framework for implementing the key activities to be supported under the Program. Social protection, responsiveness to consumer inquiries/questions, and public accountability are adequately covered by the legal framework at different levels. The legislation highlights the importance of state's commitment to serving and ensuring protection of the public, in general, and the poor and vulnerable in particular. The laws on consumer rights; targeted social assistance; grievance redress; and energy stipulate rules governing setting of tariffs; and adjustments to public salaries, pensions, and other benefits due to growth of price for consumer goods and services.

5 Assessment of Environmental Systems

5.1 General Assessment of Environmental Benefits and Risks

45. The Program supports key priorities of Tajikistan's Intended Nationally Determined Contribution (INDC) to reduce greenhouse gas (GHG) emissions by addressing adequacy and reliability of electricity supply. In particular, the INDC for Tajikistan specifies a flexible target, not exceeding 80-90 percent of the 1990 level by 2030, which amounts to 1.7-2.2 tons of CO₂ equivalent per capita, as the country contribution to anthropogenic GHG emission reductions. The Program will help to avoid increased reliance on alternative energy consumption, which includes back-up diesel generators, candles for lighting, firewood and coal for cooking in low-income households, in case financial condition of BT deteriorates to an extent when reliable operation and supply of hydropower, which currently accounts for 94 percent of totally supply, becomes unfeasible. Therefore, the Program would help to avoid increase in GHG emissions over the life of the Program (2019-2025).

46. The proposed Program also plans to improve the technical condition of the existing power network, which is dilapidated in all of the regions, including rural areas, thus creating social benefits. The reliability of electricity supply is an essential prerequisite for enhanced educational, social and health services.

47. The Government program would be financing expenditures for rehabilitation, replacement, and upgrade of key electricity distribution assets in 17 regional distribution networks of BT, which cover the entire service territory of BT. The upgrade and rehabilitation would include: (a) replacement of old oil circuit breakers with vacuum circuit breakers at substations; (b) replacement of disconnectors at substations; (c) repair and replacement of power and voltage transformers at substations; (d) installation of new relay protection and automation cubicles at substations; (e) construction of new 0.4 kV and 10 kV power distribution lines; and (f) rehabilitation of existing power distribution lines. These activities will include replacement, repair, and upgrade of equipment, include some pieces that contain environmentally hazardous components, such as transformers with oils containing PCB.⁶

48. The results of the ongoing environmental screening suggest that majority of activities, which will be supported under the PforR, will have limited environmental impacts. Some rehabilitation/construction works to be supported under the Result Area 2 could generate adverse environmental impacts, which will be low to moderate in intensity, reversible in nature, and mainly construction related. However, disposal of used oil from old transformers and circuit breakers could pollute soil and water with hazardous waste and harm human health, if implemented inadequately. Further, construction of new power distributions lines or possible reconstruction of different facilities at substations (e.g. control equipment buildings) could potentially create noise pollution. There is probability of encountering materials and equipment, which contain asbestos, when implementing the construction works. The environmental risks⁷ are therefore reviewed with the framework of adequacy of country systems for assessment and mitigation of such type of environmental effects.

5.2 Environmental Management Systems in the Program

49. Environment Management System in the Program includes: (i) various stakeholders and institutions involved in the environmental assessment, monitoring and control, (ii) laws, rules, regulations and special procedures for assessment of potential environmental risks and impacts of the proposed Program activities, (iii) institutional capacity to identify and manage environmental issues.

⁶ See details in Annex 4.

⁷ See details in Annex 3.

5.2.1 Stakeholders

50. In terms of environmental safety, the main stakeholders, with some further strengthening, have the required capacity to fulfill the environmental requirements of the PforR using national instruments. Among them the most important are the following:

51. **The Ministry of Energy and Water Resources (MEWR)** is responsible for policy, regulation and water sector coordination. Under the Ministry, **State Energy Sector Project Management Unit (PMU ES)**, which is functioning since 2006, is responsible for implementation of most of the projects in the energy sector financed by the Government and IFIs. The PMU ES has a Social and Environmental Monitoring Department, which presently consists of six staff. The department is fully operational and responsible for conducting and/or supervising all necessary works in the field of implementation of the safeguards mitigation measures and monitoring actions. The PMU ES has experience on environmental and social monitoring of different projects implemented in energy sector, however given the staff turnover, additional capacity building is warranted.

52. **BT** is the vertically integrated energy company responsible for implementation of projects in the energy sector financed from its own resources and by international financial institutions. BT is responsible for generation, transmission, distribution of electricity as well as thermal energy for heating purposes. BT has been unbundled and consists of power generation, transmission, and distribution entities with more than twelve thousand employees. Until the end of the Program, BT would remain as the owner and operator of all state-owned electricity generation, transmission, and distribution assets, but a private management contractor will be hired to operate the power distribution and, potentially, the transmission company.

53. **The Committee for Environmental Protection under the Government (CEP)** is the national environmental authority in charge of development and implementation of governmental policy on environmental protection, biological diversity, persistent organic pollutants (POPs), climate change, control over the rational use of natural resources, hydrometeorology and prevention of the causes of emergencies with negative environmental impacts. The CEP has its representatives in each region and district of Tajikistan.

54. Among other things, the CEP is in charge of: state control (inspections) of the use of natural resources and environmental protection; development and approval of rules and standards on environmental protection and use of natural resources; organization and implementation of State Environmental Expertise (SEE); organization and implementation of environmental monitoring; and creation of the register of polluters.

55. The **Ministry of Health and Social Protection of the Population** is the central executive authority in charge of the governmental policy on public health and social protection. Among other issues, the Ministry approves sanitary standards, rules and hygiene standards. **The Service of State Sanitary and Epidemiological Surveillance** (Sanepidemnadzor) subordinated to the Ministry, oversees compliance with sanitary regulations.

56. The **Ministry of Labor, Migration and Employment of the Population** is responsible for occupational health and safety. An integrated Service of State Control on Labor, Employment and Social Protection is the state executive agency responsible for control and enforcement of the labor-related legislation among all physical and legal entities, public or private. There is a list of workplace factors, such as indoor air quality and microclimate, noise, vibrations, radiation, toxic substances, etc., to be controlled by the Service.

57. **Local authorities at regional and district level.** Tajikistan is divided into the following administrative territories: the capital Dushanbe, Gorno-Badakhshan Autonomous Oblast, Sughd, and Khatlon oblasts; towns and districts under republican subordination, and lower level territorial units. The local executive authorities have the authority to implement state control of environmental protection, develop and implement programs and action plans on environmental protection and use of natural resources, make proposals to the national environmental authority on environmental issues, raise environmental

awareness, and review the reports of territorial bodies of central executive authorities and enterprises on environmental protection and use of natural resources, etc.

58. As far as the local executive authorities are concerned, the Law on Environmental Protection gives them right to "state control on environment", along with the CEP. They also have control powers on waste handling and water protection.

59. **International Development Partners, their environmental policies and key projects in Energy Sector.** International partners play an important role in the development of the energy sector in Tajikistan. With an overall objective to strengthen the effectiveness of development assistance provided to Tajikistan, the Development Coordination Council (DCC) was established to facilitate information exchange and collaboration within the development community, as well as foster dialogue on shared priorities with the Government of Tajikistan. The representatives of 29 bilateral, multilateral and UN agencies comprise the Council. DCC Secretariat is hosted by the World Bank office. The secretariat is generously supported on rotational basis by different partners. The Energy thematic area of the DCC is chaired by the Asian Development Bank (ADB) and WB as a deputy. Key international players in the Energy sector include Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), United States Agency for International Development (USAID), the World Bank and others. All these donors have comprehensive E&S policies, which are used by the national implementing agencies (like PMUs) and responsible governmental bodies (ministries and committees).

60. **Civil society.** The participation of civil society in the management of the energy sector is expanding. The Association of Energy Workers of Tajikistan (AET), established in 2005, initiated the development and adoption of number of laws of the Republic of Tajikistan, including the Laws of the Republic of Tajikistan "On Energy Efficiency", new edition of the Laws "On Energy", "On oil and gas". AET members are experts in water and energy issues, renewable energy, and other issues of the fuel and energy complex. The Renewable Energy Association (AES), established in 2015, makes contribution to the implementation of specific projects on renewable energy sources, promoting their use.

5.2.2 Institutional Capacity to Manage Environmental Aspects of the Program

5.2.2.1 Barqi Tojik

61. The current Charter of BT (2008) defines Company's ability to make proposals to the appropriate state bodies for the development and improvement of rules and standards for ensuring safe generation, transmission, distribution, and sale of heat and electricity.

62. BT has a corporate environmental policy (2009). It also has an independent subdivision of Reliability and Safety Services (RSS). The purpose of the RSS is to ensure the safe operation of generation facilities and electric networks, safe working conditions for workers, and prevention of injuries and occupational injuries at BT. The RSS is responsible for organization and control over the rules and norms of labor protection, OHS aspects. RSS is also responsible for review and revision of laws on occupational health and safety, developing special operating procedures on OHS and prevention of work-related accidents.

63. BT, as the main Program implementing agency, has limited in-house capacity for environmental due diligence, and has a few regulations on environmental mitigation when implementing physical works. The results of the Bank review suggest that BT has general and regional plans for planting trees, recycling fluorescent lamps, etc, but there are no plans or guidelines for handling of PCB-containing oils.

64. Two years ago, an environmental specialist position was created at the Energy Generation Department of BT. Even though the job description for this position includes a wide range of duties, however, the specialist mainly deals with issues of permits for land use, collecting statistical information on environmental violations in the divisions of BT and compiles annual environmental reports. Because of very broad job description, the specialist is unable to support preparation and monitoring of EIAs for the projects.

65. Each of BT's regional subdivisions has a specially appointed staff responsible for fulfillment of environmental requirements. Preparation of environmental impact assessment and obtaining permits from CEP is the responsibility of BT's Capital Construction Department. This department monitors the need for compliance with environmental regulations (preparation of EIAs) and is responsible for obtaining permits from CEP. According to the information received, in the past 5 years, design and contractor companies under the state budget financed operations have completed about 35 projects. For each project, a permit was issued by the regional CEP as issuance of such permits has been delegated to regions by the CEP. This procedure does not contradict the national legislation since the works performed mainly included reconstruction of power distribution lines up to 10 kV, and such works, according to the current regulations, do not require environmental impact assessment.

66. In case of larger projects, all of which were funded by international development partners (the list is given in Annex 2), a full-fledged EIA was carried out with the involvement of international and local consultants, and the activities were coordinated with CEP. As a rule, PMU ES engaged such specialists/consultants, which prepared relevant EIAs.

67. One shortcoming revealed in the implementation of EIA procedures is that SEE reports/approvals, under some operations, were issued for projects, which were later subdivided into small sub-projects and implemented without updated EIAs. In other words, detailed site-specific EMPs prepared by the environmental department of PMU ES or contractors were not presented for approval by CEP and did not pass the SEE procedures. Only in the recently launched World Bank financed CASA-1000 project, which is also carried out by PMU ES, site-specific EMPs obtained approval from CEP. In addition, the CASA project hired independent consultants for environmental safeguards management during preparation and implementation, which is a good practice for high risk operations.

68. In summary, BT generally complies with the national laws and procedures required for project level environmental management. However, practices to comply with the national laws vary between self-financed projects and projects funded by donors. Established procedures for EIAs under substantial or high-risk projects, such as preparation by independent consultants, is ensured for donor funded projects. For public sector projects, cases have been witnessed where umbrella EIA/SEE were prepared and later project was divided into subprojects without further environmental assessments despite the fact that these were required under the national procedures. In terms of institutional capacity, BT has limited capacity (one environmental expert) at central level to help prepare and implement the environmental safeguards instruments. Under the projects implemented by PMU ES, technical supervision consultants are typically responsible for the preparation and implementation of environmental instruments. In the absence of adequate in-house capacity, BT is unable to prepare Terms of Reference (ToR) for the EIAs, and to review EIAs prepared by the consultants, and oversee their implementation.

Hazardous Waste Management in BT

69. The country or BT-level regulations and practices for PCB management are not adequate. Specifically, BT does not have any standard procedures to manage hazardous waste, including used transformer oils, in an environment friendly manner. Thus, BT stores the used oil from transformers at specially-equipped warehouses at various locations within the substations.

70. BT has many oil storage facilities at existing substations, where both new and used oil is stored. These oil storage facilities, mostly built during the Soviet time are still fairly reliable with proper management and provide protection against the infiltration of oil into the soil and water. Specifically, those warehouses are equipped with special above-ground storage spaces with concrete ground and a ditch to allow for leaked oil to accumulate at a safe area in case a leak occurs. In warehouses without concrete ground, in case of accidental oil spill, BT staff ensures that contaminated soil is removed to a safe place.

71. BT has not developed guidelines for the management of hazardous waste including contaminated oil. There are no guidelines for testing of oil for PCB content, oil replacement and handling, and packing for its transportation and storage. It should be noted that there is adequate storage space available to store the used oil at substations throughout the country for very extended period of time, i.e. more than

10 years. There were no records documenting the accidents with oil spillage and the actions by the staff, therefore, we could verify what actions were implemented in case of such accidents.

72. BT staff is currently following the requirements of outdated technical manuals of Soviet origin that were developed before Tajikistan ratified the Stockholm Convention. These manuals are at regional subdivisions of BT or at hydropower plants. BT does not have any data or records on the quantities of transformer oils which contain PCB. It is assumed that the transformer oils used in the country do not contain dangerous concentrations of PCBs and can be reused for various purposes after filtration. Additionally, there is no regular laboratory testing of transformer oils for PCB content. BT therefore has no records on the concentrations and quantities of toxic substances.

73. The only facility in the country with capability of carrying out PCB content tests, CEP laboratory, has never been approached by BT to carry out hazardous waste analysis in the samples of transformer oils. Oils have been tested for PCB content only under projects financed by development partners. For example, within the Nurek HPP Substation Rehabilitation project funded by ADB, the samples of transformers oil were sent to laboratories in Germany to check for PCB. The analysis of oil samples did not reveal the presence of toxic concentration of PCBs in transformers of Nurek HPP, however, these statistics is not representative enough to draw general conclusion. There is little data available in the country on the soil and water contamination resulting from the PCB-containing oil and its harmful impact on human health. Ministry of Health also has no monitoring capacity and guidelines on PCB control.

74. The performance of BT in management of asbestos-containing materials (ACM) is overall satisfactory. BT's contractors know the basic techniques for handling ACM, including handling, transportation and disposal although there are no specific rules and regulations. The country has two landfills for hazardous waste (in Kanibadam and Vakhsh), where ACM is transported and buried, and the procedure is officially registered by protocols of transfer.

75. Therefore, there is a need to develop special corporate guidelines and regulations for handling hazardous materials, including oil with PCB content, decontamination requirements, temporary storage, transportation and disposal, and cleanup in case of spillage requirements.

76. Going forward, the issue will need to be addressed by each of the unbundled companies – power generation, transmission, and distribution. In the medium-term, BT will remain as the owner of all newly-created companies, which may later be transferred under the ownership of State Investment Company. After that, BT Generation will be the state-owned company, which will own and operate all of the state-owned power generation plants (exclusive of Rogun HPP). Therefore, BT Generation will retain the environmental service at least as team of one environmentalist and a few environmental positions in the territorial divisions. To increase their potential in this situation, it may be sufficient only to conduct the necessary number of professional trainings and develop appropriate technical guidelines on environmental procedures and management. Both the power transmission and distribution companies will remain as state-owned but will be operated by management contractors.

77. The draft of the management contract for power transmission does not mention any requirement for compliance with any environmental regulations. The draft of the management contract for distribution indicates that the company will ensure the environmental safety of industrial facilities, the organization of work to ensure labor protection, the effective implementation of practical measures, related to environmental protection; effective activity in the collection, use, disposal, storage, disposal, movement, transportation and disposal of industrial waste; effective use of water bodies and other natural resources; hazardous waste management activities. In draft management contract for power distribution company it is also stated that the Employer may require the Contractor to remove from the Facilities or the performance of the Services, any Contractor's Personnel, who ... persists in any conduct which is prejudicial to safety, health, or the protection of the environment. This approach should also be extended to power transmission.

5.2.2.2 State Energy Sector Project Management Unit

78. PMU ES under MEWR is responsible for implementation of multiple projects in the energy sector, which are financed by development partners. PMU ES has extensive experience in working with CEP and in preparation of EIAs and obtaining environmental permits. PMU ES has adequate in-house capacity for managing project-level environmental issues and collaborating with national and international experts to ensure compliance with environmental and social requirements under projects.

79. The extensive experience of PMU ES makes it possible to effectively carry out environmental due diligence including OHS aspects for projects. PMU ES has developed project-level procedures for environmental management, with systems to adequately document environmental monitoring results from the projects.

80. It is also noteworthy that the specialists of the E&S department are not directly reporting to the project manager, although they are financed from the project budget. Instead, they directly report to PMU ES Director or responsible Deputy Director. The PMU ES also has experience in conducting training on project level environmental management for contractors and other project staff. The PMU ES has developed adequate training material (modules and cases), which, if needed, can be used to improve the skills and capacities of BT specialists, contractors as well as district level CEP inspectors.

81. The ESSA recommends that before development of the system of environmental management in newly established companies is finalized, BT will delegate the responsibilities for preparing environmental impact assessment and receiving CEP approval on SEE to PMU ES. The PMU ES will also provide functions on environmental monitoring of physical activities in the framework of PforR. The PforR will provide the capacity building support to BT to speed up the process of reforming through establishing the effective environmental service in each of the newly formed joint-stock companies, which will include further strengthen of environmental capacity of BT and ensuring that newly established transmission and distribution companies also have adequate environmental management capacity. The PMU ES will also help BT in developing necessary environmental manuals and technical guidelines for further application in the PforR framework. The reform of the environmental system for BT activities under this PforR will be carried out with the support of the World Bank. PMU ES will report on this activity to BT and MEWR.

5.2.2.3 Committee for Environmental Protection under the Government of RT

82. The functionality of the Committee for Environmental Protection is adjusted to the administrative two-layer territorial structure. The first layer is made up of the Dushanbe City and 4 Oblast Divisions. The second layer is made up of 67 units and offices on environmental protection at district or town level. All territorial bodies of the CEP are formally subordinated to the CEP only. However, in fact, they work very closely with the local executive authorities - both at oblast level and at district and town levels. Most of the staff at the subnational level are dedicated to inspection activities.

83. The vertical remapping of permit issuance responsibility in 2015 resulted in a system that puts considerable administrative burden on the central level where experienced staff is scarce. Four units of the CEP dealing with state control of environmental legislation (air, water, flora and fauna, and soil and waste) have 17 full-time staff plus a few persons employed based on short-term contracts. The State Ecological Expertise Body employs 20 staff who deal with environmental assessments, audits and authorization of project and facility- level activities (except for the low risk projects, which are addressed at the oblast level).

84. At subnational level, skills of the CEP personnel are generally weak and many of inspectors do not have relevant education or experience, especially in assessing environmental risks in the energy sector. The staff turnover is also very high.

85. The institutional capacity assessment relevant to the Program shows that national institutions and implementing entities have basic capacities to perform their duties regarding environmental management there is therefore a need for additional capacities and strengthening of existing resources.

5.2.2.4 Civil Society Organizations

86. Mandatory public participation in the current EIA/SEE system is envisaged only at the EIA stage under the national law. At the SEE stage, the possibility of public participation is provided through the so-called public ecological expertise, which is rarely conducted in practice. In practice, public participation in EIA continues to be limited and is mainly organized as part of the projects funded by international financial institutions. Public environmental control through citizens' appeals and complaints is limited to their administrative review by the CEP and is not a regular practice by CEP.

5.2.3 Coordination Mechanisms within the Government and at Subnational Level

87. The Government hierarchy is comprised of ministries and state committees. The CEP is a body subordinated to the Government. The weak integration of environmental aspects into sectoral legislation and strategic documents shows that, despite formal procedures for review of draft legislation and strategic documents by all interested public authorities, the CEP's influence on such documents is limited. As such, there is a weak involvement of regional bodies of CEP in projects implemented by BT for environmental protection.

88. Local executive authorities play an important role in coordinating activities at the regional and district levels. One of the deputy heads of a local executive authority is usually responsible for overseeing environmental issues, i.e. acts as a curator for such issues. While the competence of local executive authorities to implement state control of environmental protection formally overlaps with the same competence of territorial bodies of the CEP, this does not seem to be a problem, as territorial bodies of the CEP work hand in hand with the local executive authorities and regularly inform and consult them on their work. Joint actions of sanitary, environmental and other enforcement agencies are often undertaken under the aegis of the local administration. Since the local executive authorities lack resources for their day-to-day activity, there is a tendency to use the CEP's district and town offices/units for local environmental issues.

89. Joint actions of different state bodies mandated to oversee regulatory compliance and carry out monitoring functions (e.g. environmental and sanitary authorities) are a routine practice, especially at the local level. This is mainly done on an ad hoc basis and under the guidance of local executive authorities. A particular issue making coordination difficult is the lack of connection between information systems of various agencies, and insufficient capacity for data processing, data storage and exchange. On the other hand, local authorities have no structural units dedicated to environmental protection. In practice, their main function is delivery of environment-related services, such as municipal solid waste management and natural assets management. Local executive authorities have a central role in land-use and urban planning. The energy sector is not under attentive control of CEP authorities and municipalities, because of the strong need for energy supply everywhere over the country.

5.2.4 National Environmental Categorization of Activities

90. The Program proposed rehabilitation, replacement, and upgrade of key electricity distribution assets in 17 regional distribution networks of BT, which cover the entire service territory of BT. The proposed activities classified per categories of environmental risk in accordance with the national environmental legislation are presented below in the Table below.

Table 1. Categorization of Proposed Activities under the Program

N	Proposed activities	Relevant "type" of activity from the national categorization system*	National Category (by Cyrillic letters: A- high risk, Б – medium risk, B – low risk, Г – minimal or no risk)**	Type of the SG tool required by the national legislation	Incompliance with the WB environmental policy and recommendations
1	Replacement of old oil circuit breakers with vacuum circuit breakers at substations	Assembly and repair of electric equipment Toxic waste storage or disposal sites (in case of PCB-containing oil)	Category B (low risk) Category A (high risk)	Development of OVOS (EIA)	Needs clear operations (site-specific EMP) for detecting PCB in oils and site-specific EMPs for the oil storage and disposal sites.
2	Replacement of disconnectors at substations	Assembly and repair of electric equipment	Category B (low risk)	Application (Statement) for EIA assessment	
3	Repair and replacement of power and voltage transformers at substations	Assembly and repair of electric equipment Toxic waste storage or disposal sites (in case of PCD-containing transformer oil)	Category B (low risk) Category A (high risk)	Development of OVOS (EIA)	Needs clear operations (site-specific EMP) for detecting PCB in oils and site-specific EMPs for the oil storage and disposal sites.
4	Installation of new relay protection and automation cubicles at substations	Assembly and repair of electric equipment	Category B (low risk)	Application (Statement) for EIA assessment	
5	Construction of new 0.4 kV and 10 kV power distribution lines	High-voltage power lines of republican and interstate importance	Category A (high risk)	Development of OVOS (EIA)	Need site-specific EMPs
6	Rehabilitation of existing power distribution lines	Regional power lines	Category Б (medium risk)	Development of OVOS (EIA)	Need site-specific EMP check-lists, and full EMPs if rehabilitation is implemented in settlements (considering OHS and pedestrian safety)

* Annex 1 to the Resolution No. 532 of the Government of the Republic of Tajikistan, November 1, 2018

**Note: For the types of activities that are not related to categories "A" and "Б", it is obligatory to submit an Application (Statement) for EIA assessment and declaration of obligations to implement the established and proposed environmental protection measures from the customer of this activity. An environmental impact assessment statement is also submitted when the proposed activity does not have a negative environmental impact or has a positive impact.

91. As it is clear from the table, some of the proposed Program activities can be considered as having high or medium environmental risk in accordance with national legislation. These activities should be of

particular attention during Program implementation. Some of them, such as activities relevant to the PCB-containing waste management and construction/rehabilitation of high-voltage power lines, especially within settlements, need the development of site-specific EMP with obligatory public consultations.

5.2.5. Overall Conclusion on Environmental Impacts and Risks

92. The environmental management system analysis presented in the sections above leads to the following conclusions:

Strengths

The strengths of the environmental management system for the proposed PforR activities are:

- Adequate environmental legislation and regulations at the national level for conducting environmental impact assessments relevant to the Program.
- Adequate network for environmental protection offices at district level. There is adequate interaction between CEP district representatives and municipalities, which can provide necessary environmental due diligence required for the Program.
- Experience of PMU ES of MEWR from the implementation of international projects in the energy sector. This has contributed to creation of some capacity for project level environmental management for energy sector projects even at BT.

Gaps

93. Key gaps in the environmental management system relevant to the Program are:

- Weak environmental management capacity at BT.
- Absence of necessary guidelines and standard operating procedures (SOPs) for hazardous waste management including PCBs at BT.

5.2.6. Recommendations on Improvement of Environmental Systems

94. BT will remain the state-owned company responsible for heat and electricity generation in the country. It will own and operate all state-owned HPPs (except Rogun HPP) and thermal power plant. The electricity transmission and distribution would also remain as state-owned, to be managed by BT Holding Company, but will be managed by private management contractors. Therefore, the recommendations related to addressing environmental impacts of the Program and recommended capacity building activities are structured considering those expected sectoral restructuring.

95. BT's current low capacity in environmental management increases the environmental risks to substantial unless some corrective measures are taken up. To mitigate environmental risks associated with the implementation of Program, ESSA recommends the following key actions:

- *Creation of environmental and social support group (ESSG) at currently vertically-integrated BT and subsequently at BT Generation Company.* Fully functional ESSG will help BT in implementing Program-level environmental management system in compliance with the national legislation. In future, ESSG may also serve to manage and monitor E&S aspects of projects financed by international development partners.
- *Provision of environmental management services under the Program by PMU ES until ESSG is created is created at BT Generation Company and management contractors for transmission and distribution establish relevant E&S units.* MEWR should formally assign PMU ES to be responsible for E&S aspects of the Program until ESSG is created in BT. The PMU ES should also be responsible for capacity development program for BT in managing E&S aspects of the Program. The PMU ES should be responsible for E&S aspects of the Program for up to 2 years, depending on the speed of creation of ESSG. The BT Holding Company/MEWR should also ensure that the management contractors have the in-house capacity to comply with the requirements of local legislation

related to key aspects of their operations (e.g. strengthening the relevant provisions in the draft management contract related to E&S).

- *Adoption of environmental policies and corporate level guidelines and SOPs for hazardous waste management.* BT will hire a consultant (preferably international) to prepare Environmental Policy and corporate level guidelines and standard operating procedures (including emergency plans for oil spills) for the hazardous waste management, including PCBs, at the level of BT Generation Company. This is required given the current deficiencies observed in the corporate policies related to hazardous waste management, including PCBs. The management contractors will also be required to follow the requirements of the environmental policies and corporate guidelines.

6 Assessment of Social Systems

96. Key program elements, from social perspective, relate to: (i) electricity tariff increases to be implemented by BT, which will impact the different categories of consumers; and (ii) the power distribution network's interactions with the consumers to evaluate whether the power distribution networks are effective in addressing the consumers' questions and complaints, and providing the requested information.

97. The social protection system has been assessed through a diagnostic Poverty and Social Impact Assessment (PSIA). This comprised: stakeholder analysis and impact assessments with resultant poverty scenario. The processes comprised, as a first step, mapping of the stakeholders.⁸ First, a universal list of stakeholders was drawn and then prioritization was done considering significance of a particular stakeholder group. For the purpose of convenience, mapping was done considering vertical and horizontal spaces. The former relates to the administrative domains - national, province, district, village and Mohalla. Further, segmentation has been done in each of these domains. Significance is gauged by assigning scores - 5 being maximum and 1 being the lowest. Next, consultation meetings were held with different stakeholder groups. Program information were shared to evince their expectations and the issues/concerns thereof.

98. These consultations helped in understanding the customer's perception of effectiveness and reliability of electricity supply systems and determining the social issues likely to be addressed by the Program. The results were consolidated and the initial set of impacts was drawn. These impacts were refined further using the results of the analytical poverty assessments.⁹ Consultation meetings were held and covered a variety of stakeholders. The main two groups of stakeholders include the energy company (BT) and consumers. The detailed list of stakeholders and the analysis thereof is presented in Annex 6.

Table 2. The List of Key Stakeholders

KEY STAKEHOLDERS	
(i)	Barqi Tojik (BT), the national integrated power company of Tajikistan, Utility Company responsible for generating, transmitting and distributing power for most part of the country;
(ii)	Household consumers in rural as well as urban areas;
(iii)	Female Headed Households in rural as well as urban areas;
(iv)	Farm Households in rural areas;
(v)	Industries;
(vi)	Commercial establishments;
(vii)	Institutions like school/ colleges/ hospitals;
(viii)	Transporters;
(ix)	Consumers Union. ¹⁰

6.1 Social System: Salient Features and Key Issues

99. Electricity tariffs have been increasing in Tajikistan since 2016. Specifically, in nominal terms, the tariff for residential consumers increased by 70 percent since 2013 (see Table 3). The last increase was made in 2018 by the Government Decree # 473, dated September 2018. In particular, the increase for residential consumers was 15 percent - from the 16.85 dirams/kWh to 19.37 dirams/kWh, including VAT.

⁸ A stakeholder is defined as an individual or institution who/ which can impact on the program and/ or impacted by the program.

⁹ Poverty Assessments have been conducted by the World Bank's Social Protection Unit.

¹⁰ The Consumers' Union of Tajikistan was formed in the year 2002. It is a not-for-profit, non-governmental organization created by experts in the areas of consumer rights, the economy and the justice system. Its main purposes are to protect consumers' rights and act in the interest of consumers and to build a fair and competitive market of goods and services in Tajikistan

100. The continuous increases in tariffs together with limited fiscal space of the state budget make planning and budgeting extremely difficult, especially, for the protection of the poor.

Table 3. Annual Tariff Increases within 2013-2018 (dirams/kWh)

Consumer groups	from January 1, 2013	from July 1, 2014	from November 1, 2016	from January 1, 2017	from October 1, 2017	from October 1, 2018	from November 1 2018
Industry	26.63	30.6	35.65	35.65	40.99		47.13
Tajikistan Aluminum Company (TALCO) (including VAT)	8.1 ¹¹	11.8	11.8	11.8	11.8	12.88	12.88
from October 1 to April 30	5.0	7.2	7.2	7.2	7.2	7.8	7.8
from May 1 to September 30 (seasonal tariff)							
Non-industrial consumers							
subgroup A (commercial)	26.63	30,6	35.65	35.65	40.99		47.13
subgroup B (budgetary)	10.63	12,2	14.2	14.65	16.85		19.37
subgroup C (average tariff) ¹²	18.63	21,4	24.93	24.93	28.67		33.25
Communal consumers	10.63	12.2	14.2	14.65	16.85		19.37
Urban electrified transport	6.04	8.2	9.55	14.65	16.85		19.37
Agricultural consumers	26.63	30.6	35.65	35.65	40.99		47.13
Pumps and pump stations	6.04	6.95	8.09	12.42	16.85		19.37
from October 1 to April 30	1.59	1.86	2.16	4.32	5.86		6.73
from May 1 to September 30 (seasonal tariff) ¹³							
Electric boilers and etc.	65.88	75.8	88.3	88.3	101.54		116.77
- for budgetary organizations	19.5	22.4	26.1	26.1	30.0		34.51
Population (including VAT)	11.0	12.6	14.65	14.65	16.85		19.37

6.1.1 Current Energy Consumption Patterns

101. Household energy demand is driven by lighting, heating, cooling, cooking, water pumping, and entertainment (television, radio), and other electronic gadgets like mobile, computer etc. The type of energy used for heating differs y between locations, but does not differ much between wealth groups within a location barring urban areas outside Dushanbe. In urban areas outside Dushanbe, the poorer households use relatively more wood and coal, and the wealthier households rely relatively more on

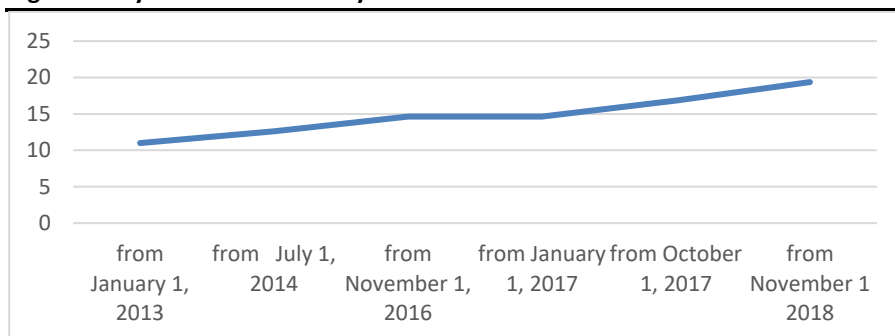
¹¹ From 2012 to July 2014, the seasonal tariff was in force from April 1 to October 31.

¹² For educational institutions, which are not on budgetary financing (sports complexes, mosques, cathedrals and churches also pay this tariff since 2012.

¹³ From 2012 the seasonal tariff is in force from April 1 to September 30.

electricity for heating. Urban apartment dwellers rely almost exclusively on electricity for heating their homes, while urban house residents use electricity, wood and coal in almost equal proportions. In rural areas, wood and coal are the main heating sources used. Yet, rural households also use electricity intensively, including for heating, when it is available.

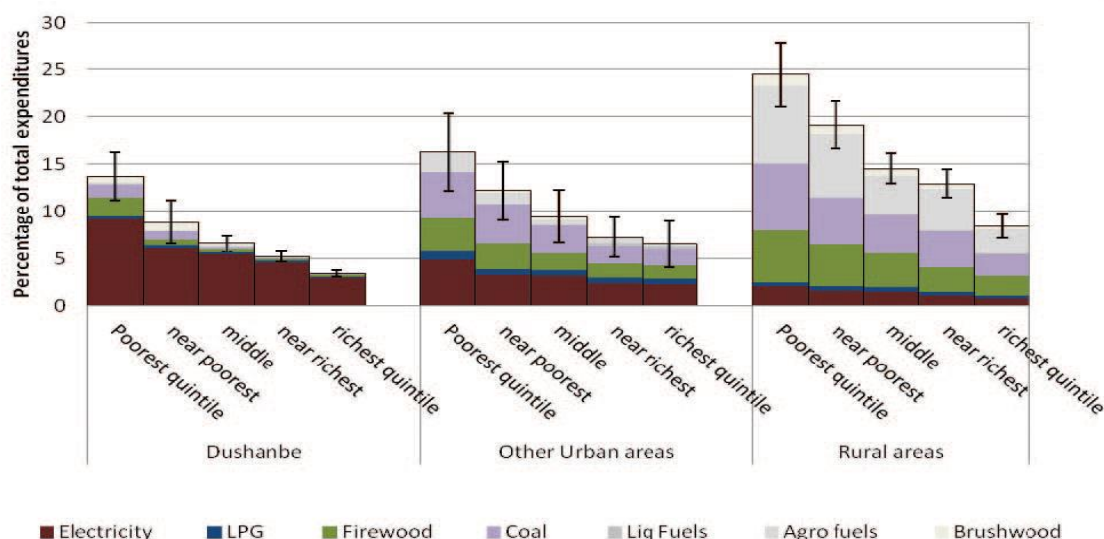
Figure 1. Dynamics of Electricity Tariff Growth for Residential Consumers in 2013-2018.



Source: Data from BT.

102. Energy deprivation and affordability especially affect poor rural households who spend a large share of their total consumption expenditure on energy. This share is higher than for households in urban areas. During the heating season, the poorest people in the rural areas spend almost 25 percent of their monthly consumption expenditure on energy. The poorest quintile in urban areas outside Dushanbe spends approximately 15 percent of their consumption on energy during winter. The residents of Dushanbe spend 14 percent of their income on energy during winter. On an annual basis, these figures are 14, 10 and 9 percent respectively, which is highest in Europe and Central Asia.¹⁴ Rural households also have fewer available coping strategies than urban and are, occasionally, negatively affected by the limited supply of electricity in the winter for lighting and other basic needs.

Figure 2. Consumption Expenditure on Energy by Poverty Rate.



Source: Bank team estimate based on household survey, national statistical data, and other sources.

103. Electricity shortages in rural areas affect the quality of social service delivery. Some schools and medical facilities face the same electricity rationing as residential areas, which affects their functioning. They can only operate during daylight. Densely populated areas have a special electricity line for social buildings (a so-called “red line”), which supplies unlimited electricity during the heating season. However,

¹⁴ Source: World Bank staff, based on data from the Central Asia Longitudinal Inclusive Society Survey (CALISS), 2013.

it is common for private houses or small shops to connect illegally to the red line, resulting into social buildings receiving less energy than needed. Reduced access to heat and electricity (and therefore running water) forced many hospitals and health centers to close or work restricted hours of operation. Fluctuation in voltages affects the water pumps and often repairs become inevitable.

104. During the heating season in Dushanbe - where electricity is available on near-continuous basis – households consume at least 800-900 kWh/month, compared to 400-600 kWh/month in other urban areas and 200-250 kWh/month in rural areas. In Dushanbe, electricity is the main source for heating homes and water, and cooking. The main reasons for that are lack of alternative heating sources and low energy efficiency of residential buildings. Together with their low incomes, this explains why even with the current low electricity tariffs, the poorest households in Dushanbe suffer from high energy expenditure burdens during the heating season.

105. The situation has improved during since early 2017 after commissioning of Dushanbe-2 Combined Heat and Power (CHP) plant, which also provides district heating (DH) to over 40 percent of residential consumers in the city of Dushanbe. Currently, the residential consumers pay for centralized DH a monthly price of around TJS1.1/month/square meter of residential area. This is lower cost heating option compared to electricity, but its cost is also expected to increase as DH tariffs start converting to cost-recovery levels.

106. Cutting expenditures on other necessities and under-consumption are the two most common strategies applied by rural households for dealing with high energy expenses. Households also try to reduce their consumption of energy to the extent possible. Most people, however, would rather reduce food intake to be warm and preferred to be a little hungry in a warm home. Nearly all rural focus group respondents reported that higher energy costs force them to reduce spending on food. Some population groups are considered especially vulnerable to high energy expenses given their level of income. These groups include, in order of priority, single female headed households (FHHs), families with many children, pensioners living alone without family support, and people with disabilities.

107. Tajikistan's electricity tariffs are the second lowest in Europe and Central Asia and energy efficiency is low. Many analytical studies correlate the winter energy crisis in Tajikistan to the need to raise tariffs in order to better recover costs and improve services. At the same time, there are important concerns about the affordability of electricity price increases in an environment where DH prices are also expected to increase, incomes are low, and where consumer trust in the integrity and transparency of the electricity utility company is limited.

108. Implicit electricity subsidies - resulting from supplying electricity to households at a price that does not recover its cost - are regressive and benefit richer households more than the poorest groups (Figure 2). Electricity consumption is higher among high-income households compared to those with lower incomes. Consequently, urban and richer households benefit disproportionately from the current implicit electricity subsidies. This is especially the case for households in Dushanbe where electricity is available on 24-hour basis. This renders the current low electricity tariff policy distribution ally inefficient as it favors the rich and does not protect the poor and vulnerable households from high energy expenditures.

109. Household survey data demonstrate that due to higher electricity consumption per capita, top 60 percent households disproportionately benefit from below cost-recovery tariffs. The top quintile consumes nearly 3.5 times the amount of electricity per capita than the bottom quintile in Tajikistan. Households in Dushanbe (the area with the lowest poverty rates in the country) consume more than 3.3 times the national average amount of electricity, largely due to a lack of alternative heating options in winter. Reducing public subsidies to electricity consumption are thus progressive (from distributional perspective) in its direct effect. Nonetheless, it is more difficult for poorer households to adjust to increasing energy costs. Simulations of potential consumer responses to tariff increases suggest that if full cost-recovery levels were achieved, the poorest 20 percent of households would be expected to allocate nearly 1.1 percent more of their total budget to electricity, while the top quintile of households would be expected to see an increase of approximately 0.63 percent.

110. There may be some willingness to pay (WTP) higher electricity tariff. However, residential tariff increases, especially in rural areas, might be acceptable only if a number of conditions related to quality of service, and transparent and equitable billing methods are met. These include: (i) reliability of electricity supply (details about outage presented in Annex 8); (ii) quick recovery of supply in case of outage; and (iii) metering and billing must be transparent and non-discriminatory (elimination of illegal connections and unbilled consumption of electricity). There is a widespread public perception of corrupt practices and consumer trust in BT is very low. In some areas with advanced metering infrastructure (AMI), such as Sughd, including the city of Khujand, where EIB and EBRD have recently completed a highly successful project to install modern meters and automated billing system. The satisfactory rates of residential consumers improved, the collection rates for billed electricity increase, and commercial losses reduced. As part of the Program supported under PforR, BT plans to scale up the successful experience in Sughd and implement a metering and billing system in the city of Dushanbe, which is the largest consumer of electricity accounting for 25 percent of total. AMI leave less room for corruption and facilitate more transparent billing in the country.

111. An increase in electricity tariffs, which is needed to make BT financially sustainable, would need to be accompanied by measures to protect low-income households. Tariff increases, estimated to take place under the Program during 2019-2024, would have the largest impact on poor households in Dushanbe and other urban areas. During the heating season, spending on energy would rise from about 14 percent to almost 19 percent of household consumption in Dushanbe and would reach 20 percent for the poorest households in other urban areas. This assumes that electricity consumption patterns remain unchanged, a realistic assumption on the short term, especially for apartment dwellers for whom there are no safe heating alternatives.

6.1.2 Customer Orientation and Responsiveness of BT

112. The satisfaction with the quality of electricity service and overall responsiveness of BT to customers' complaints and questions is very low, based on the results from the ongoing Listening-to-Tajikistan (L2T) survey. The existing system at BT for recording, processing, and resolving the customer complaints is inefficient and would need strengthening, especially in the regions. This is expected to improve with engagement of the management contractor on the electricity distribution side and scale-up of AMI to cover other regions of the country following the successful experience of implementing such system in Sughd region.

113. **Handling of complaints.** The Citizen Reception Unit under General and Control Department within Main Department of Finance and Administrative Services is responsible for handling the consumer complaints. The Chief Inspector, the only specialist of the Citizen Reception Unit, keeps track of all appeals from consumers (written/oral/received via website) in the separate ledgers differentiated by individuals and legal entities, and makes sure the customers' requests/complaints/questions are addressed properly and in timely manner (details are presented in the Annex). The initial assessment suggests this system has adequate performance, but confined to the central office in Dushanbe. Similar arrangements at regional/district or sub-districts could not be observed.

114. **Electricity Governance Initiative (EGI).**¹⁵ Consumer Union's efforts on assessing the consumers' satisfaction survey brings to the fore the following: (i) 36 percent of the people had to spend more than

¹⁵ The Electricity Governance Initiative (EGI) is a unique network of civil society organizations dedicated to promoting transparent, inclusive and accountable decision-making in the electricity sector. They facilitate collaboration of civil society, policymakers, regulators, and other electricity sector actors using a common framework to define "good governance." World Resources Institute (WRI) serves as the global secretariat for EGI, with Prayas Energy Group (PEG) acting as the Initiative's special knowledge partner. The Consumers Union of Tajikistan (CU) is national a non-profit, non-governmental organization, created in July 2002, the mission organization is assistance in consumers' rights and interests' protection, building a fair and competitive market of goods and services in Tajikistan. The three institutions together developed The Electricity Distribution Interface Toolkit (EDIT) envisioned as a tool to empower civil society and consumer groups to understand problems and issues relating to electricity service delivery and enable informed engagement with utilities, government and other related agencies, Tajikistan enquiry was conducted in 2015 , details are available on the website of Consumers Union.

three months to get a new connection, with repetitive visits and many others resorted to enlist the services of the intermediaries; (ii) reaching out to BT's offices is quite difficult due to distance and unsuitable working hours as well as lack of proper information; (iii) huge problems in getting repair and rehabilitation of the meters; and (iv) 15 percent of households complain of severe voltage/ quality problems and as many as 70 percent do not complain, rather, wait for fixes to be completed. Overall, about 80 percent seem to be satisfied with the services and the remaining 20 percent rate the services as quite poor. About third of respondents confirmed lack of awareness about the services they can expect and how to demand it from BT.

115. Outreach Efforts. BT has no specialized unit for public communication. However, a small cell under the leadership of finance and administrative services department is responsible for all information, education and communication efforts. A variety of communication channels (brochures, press releases etc.) are planned and adopted. However, most efforts seem to be highly focused only on information sharing and there are no mechanisms to consult and take into account the public feedback.

6.2 Social Impacts

116. The Program is expected to have overall positive social impacts as the interventions will improve the reliability of electricity supply. Specifically, rehabilitation and upgrade of T&D assets and scale up of AMI to cover the city of Dushanbe is expected to lead to increased reliability of supply. These improvements are also expected to be pro-poor as those facing unreliable electricity supply are overwhelmingly the poor and vulnerable households in the country's rural areas. Access to modern energy in general and, electricity in particular, contributes to improved health, livelihood, and creates gender benefits. Women and girls are often primarily responsible for household activities that become substantially easier and less time-consuming when reliable electricity is available. Moreover, reliable electricity supply creates increased economic opportunities for all residential consumers, including FHHs. The Program would also contribute to the effectiveness of Incidence Recording and Management Systems to be introduced together with AMI. This would include effective processing of customer claims and complaints related to reliability of electricity supply.

117. The Program would also contribute to adequacy of electricity supply through improvement of financial viability of BT. The energy company would not be financially viable in the long-term without electricity tariff increases to cover the economically justified costs and implementation of other measures in the Program. However, tariff increases would impact the poor households as they will have to devote an increasingly larger share of their household budget to electricity. Electricity poverty – defined as households that spend 10 percent of their total budget or more on electricity – is expected to increase. Other adverse impacts related to construction activities are likely to be negligible given that the Program primarily includes rehabilitation and upgrade of existing power transmission and distribution assets, which mainly include existing substations.

6.2.1 Impacts of Electricity Tariff Increases

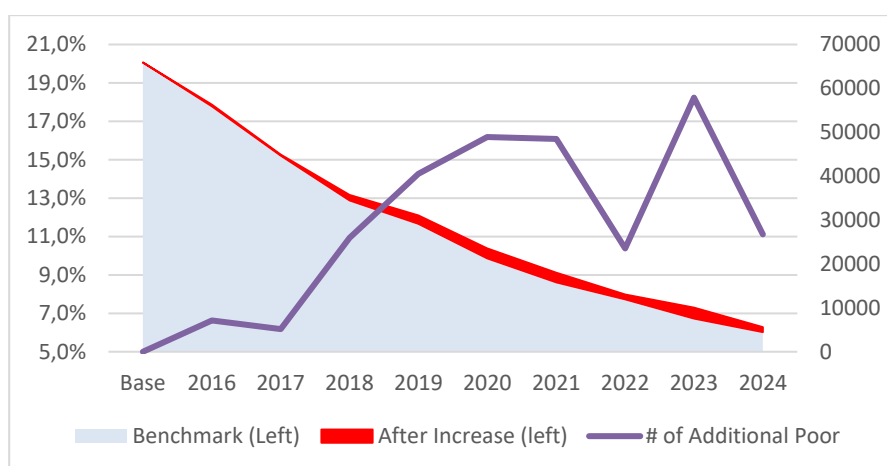
118. The Government of Tajikistan plans to gradually increase electricity tariffs to full cost-recovery levels by 2025. While the tariff increase impacts all categories of consumers, potential mitigation of tariff increases for the poor households assumes significance, as electricity is becoming increasingly unaffordable for many residential consumers. Poor households in urban areas are likely to be impacted directly by the tariff increases, while their rural counterparts would see an anticipated similar impact from the rise in prices of alternative energy sources.

119. With rising tariffs, poor households will devote an increasingly larger share of their household budget to energy and electricity. Without mitigation, electricity poverty – defined as households that spend 10% of their total budget or more on electricity – is expected to increase substantially by the time BT achieves full cost recovery. The largest increases would take place in Dushanbe, where the poverty rate is lower than average. This analysis takes into account only direct impacts from electricity prices changes. The indirect impacts caused by impact of electricity price increases on the prices of other goods and services are not considered.

120. Annual increases in tariffs of 15 percent (in nominal terms) would be expected in 2019-2021 with subsequent increases of 8 percent (in nominal terms) in 2022-2024. The poverty impact of rising electricity tariffs can be estimated using simulation approaches based on GDP growth projections and assumptions about future progress in poverty reduction. It is likely that rising electricity tariffs would increase the poverty rate by 0.6 percentage points in 2024. The number of people falling below the poverty line due to electricity price increases would reach approximately 58,000 in that year.¹⁶

121. During the heating season, spending on energy would rise from about 14 percent to almost 19 percent of household consumption in Dushanbe and would reach 20 percent for the poorest households in other urban areas.

Figure 3: Impact of Tariff Increases on Poverty Rates.



Source: Bank team estimate.

6.2.2 Gender-Disaggregated Impacts of Tariff Increases

122. Women are often disproportionately affected by increasing energy tariffs and mechanisms used to cope with higher energy costs. As women are more often responsible for cleaning, washing, and cooking, reduced use of appliances as a way to cope with higher tariffs directly, affects their workload.¹⁷ As women (and girls) may fulfill these household tasks manually, they might experience time poverty and physical strain, and they could spend less time on educational and income-generating activities.¹⁸ Women who stay at home are also more directly affected by savings on heating. Women are also more likely to sacrifice their needs first to manage the household budget to afford higher energy costs.

123. In Tajikistan, male household members are responsible for purchasing wood, while women and children are responsible for collecting it, which has negative impacts on women's time poverty and psychical well-being. Women and girls are often more impacted by switching to solid fuels (e.g. wood, coal, etc.) as they disproportionately bear the health burdens associated with reliance on traditional fuels. Women and children spend more time in proximity to polluting combustion sources, and therefore, they are at particularly high risk of respiratory infections from exposure to household air pollution (HAP).¹⁹ In addition to respiratory issues, women also face risks of injury due to use of solid fuels for various purposes, including heating.

¹⁶ Poverty is measured using the international line for lower middle-income countries at \$3.2 per person per day in 2011 PPP terms. Dynamic estimates based on the National PMT survey data for 2015, GDP growth projections from the IMF to 2024, and official inflation and population growth rates reported by the national statistical agency of Tajikistan. The poverty trends assume a .87 pass-through of GDP growth to consumption.

¹⁷ World Bank. 2015. *Toward Gender-Informed Energy Subsidy Reforms: Findings from Qualitative Studies in Europe and Central Asia*.

¹⁸ Ibid.

¹⁹ WHO (World Health Organization). 2016. *Burning Opportunity: Clean Household Energy for Health, Sustainable Development, and Wellbeing of Women and Children*. onde

124. FHHs are concentrated in Sogd and Dushanbe regions, which have higher rates of electricity consumption and lower poverty rates than other regions, and also suffer fewer power outages. FHHs have slightly higher average total household consumption than MHHs, but more heterogeneity and a somewhat higher measured poverty rate (19.5 percent MH vs 22 percent FH). This means that FHHs receive a greater (slightly regressive) benefit from existing public subsidies to electricity consumption. However, adjustment to rising prices may be more difficult for FHHs. In 2015, FHHs allocated about 2.6 percent of the average household budget to electricity in 2015. This would be expected to rise to 3.62 percent at cost recovery, compared to about 2 percent for MHHs, rising to 2.83 percent.

125. FHHs in Tajikistan living without remittances will be particularly impacted by higher energy costs. Number of FHHs in Tajikistan has increased as higher numbers of Tajik men migrate to Russia for work. According to 2017 survey, 20 percent of households in Tajikistan are headed by women. Many FHHs rely on remittances as the only source of income. According to an IOM study, approximately one in three migrants' wives find themselves left alone as their migrant husbands abandon their families at home and start a new life and new families.²⁰ While most of these women are responsible for providing for themselves and children, only 48 percent found part or full-time jobs.²¹

126. FHHs without a migrant, or households, in which a migrant abandoned and/or stopped supporting the family, are particularly vulnerable. Women heading these households are economically disadvantaged, have fewer marketable skills, lower incomes, and they face additional barriers in pursuing income-generating opportunities.²² They could resort to coping mechanisms such as cutting essential expenditures on food or health. Moreover, rural FHHs in Tajikistan reportedly rely on alternative energy sources such as dung, which do not have a monetary value but are time-intensive to procure.²³ In countries in Europe and Central Asia, it was found that men are primarily responsible for purchasing, transporting, and storing wood or coal due to physical effort required and reliance on male networks (e.g. male forest rangers and wood traders) to fulfill these tasks.²⁴ Therefore, FHHs often have to outsource transport, storage, and preparation of heating fuels at an extra cost. FHHs could also rely more on sources such as wood than male-headed households and, therefore, they would be affected more by higher prices of wood triggered by price increases of modern fuels, which are substitutes for wood.

127. Women in Tajikistan, particularly in rural areas, lack of voice and agency. *Mahallas* are an important community-based organization for collective decision-making; however, they are traditionally dominated by older men at the local level. According to a 2013 baseline survey, 50 percent of respondents indicated that men's influence is stronger than women's influence at the *jamoat* level. Only 11 percent said women had more influence than men.

128. Women's agency and participation in tariff related discussions/consultations could be improved through actively engaging women under communication and outreach activities on electricity tariff reforms, BT's customer complaint handling mechanisms, and energy efficiency. The research shows that women often lack awareness about energy tariff reforms as well as energy efficiency measures.²⁵ Information presented in a technical manner or through direct request by consumers is less likely to reach women as well as other vulnerable groups. Women can be activated as agents of change to alter informal and inefficient energy use habits and to encourage behavior change toward energy efficiency. Women could also play important role in fostering a relationship of trust between BT and communities.

6.2.3 Targeted Social Assistance Program

²⁰ IOM, 2009. "Abandoned wives of Tajik labor migrants: IOM Study on the socio-economic characteristics of abandoned wives of Tajik labor migrants and their survival capabilities."

²¹ Ibid.

²² World Bank. 2014. "Assessment of Household Energy Deprivation in Tajikistan."

²³ Ibid.

²⁴ World Bank. 2015. Toward Gender-Informed Energy Subsidy Reforms: Findings from Qualitative Studies in Europe and Central Asia.

²⁵ World Bank. 2015. Toward Gender-Informed Energy Subsidy Reforms: Findings from Qualitative Studies in Europe and Central Asia.

129. The Targeted Social Assistance (TSA) program was launched initially as a pilot in Yovon and Istaravshan districts in January 2011 to deliver a consolidated social assistance benefit to the poorest households with primary focusing on extreme poverty. The European Union and the Bank joined jointly supported the pilot. Given that it yielded good results, the TSA has been extended considerably and it currently covers about 100,000 households in 40 districts of Tajikistan. The remaining 28 districts are expected to be covered in 2019-2020 to bring the number of beneficiary households to 200,000 or about 15 percent of the total number of households in the country.

130. Several important modifications in the TSA program are being discussed with the Government. The key agreement has been to link the TSA benefit to a measurable value that gets indexed annually. It has been proposed that starting from 2019, the base level of the annual benefit (TJS400) would be linked to a “budget accounting unit”, which as of January 2019 will constitute TJS55. It is proposed that the annual benefit be equal to 8 such notional units. Based on this agreement, the average benefit will be increased in 2019 by 10 percent.

6.2.2 Impacts on Customer Orientation and Responsiveness

131. The Incidence Recording and Management System (IRMS) will be integrated with the AMI, and support better network operations, in particular aimed at ensuring good quality in power supply to customers. Specifically, the IRMS will allow to better respond to client claims and complaints related to outages and other anomalies in electricity supply, and ensure better quality of power supply by automating the detection of distribution faults. Setting up of the IRMS will be accompanied by the establishment of a network assets and supply database, which will include data on medium and low voltage networks and on each customer’s connection to the corresponding transformer station. The system will allow a centralized, reliable, continued (24 hours a day, 7 days a week), transparent and accountable management of customers’ claims. It will enable centralizing reception and collection of all existing information on each claim, linking claims with network installations and grouping complains by affected area, ensuring targeted dispatch of field workers to the incident area, and keeping customers updated on the status of each incident, including the estimated repair time. Accordingly, the IRMS will help to minimize the response time between reception of a customer claim and restoration of regular supply, that is, the duration of each interruption, which is a critical dimension of power supply quality. The IRMS will also allow compiling statistics of outages (by hourly interval, duration, affected people), and therefore identifying equipment requiring specific repair, maintenance or replacement due to high rate of failure. This will enable effective monitoring and controlling of the overall quality in power supply.

6.3 Overall Conclusion on Social Impacts and Risks

Strengths

132. The strengths of the social management system for the proposed PforR activities are:

- Adequate legislation at national level for mitigating the impacts of tariff increases on the poor through indexation of compensation and benefits to be paid to eligible vulnerable consumers.
- Availability of solid foundation to expand the TSA, which currently covers 40 districts and 100,000 households. A rigorous impact evaluation documented the success of the pilot TSA program in Yevon and Istaravshan districts. The evaluation report shows that the pilot project improved targeting (a greater share of benefits accrues to the poor), generated positive satisfaction about the program by the population in pilot districts, increased the perceived financial situation, improved food security perception and raised actual food consumption by 16-25 percent.
- The average benefit under TSA has been increased in 2019 by 10 percent, which is the first benefit increase since the program launch in 2011.
- Adequate legislation at national level to protect the rights of consumers.
- Successful experience in Sughd region with improvement of consumer responsiveness and accountability of BT’s regional power distribution network.

Gaps

133. Key gaps in the social management system relevant to the Program are:

- The existing TSA does not cover all vulnerable households in order to allow for mitigation of the impact from increasing electricity tariffs. The increases may have larger impact on FHHs given lack of income sources and limited copying mechanisms. Additionally, there is no energy-linked line of benefits/program to compensate for energy price changes.
- TSA requires further improvement of targeting and differentiation of the benefits based on family size and composition.
- Implementation of the requirements of the legislation for protection of the rights of electricity consumers is substandard. The existing system at BT for recording, processing, and resolving the customer complaints is inefficient.
- Access to data and information can be expensive for socially vulnerable consumers given high fees stipulated in the legislation requiring sharing of information and data by relevant government bodies and agencies, including BT.

6.4 Recommendations on Improvement of Social Systems

134. ESSA recommends the following key actions to mitigate social risks associated with the implementation of Program.

- *Expansion of TSA coverage.* It is recommended, as a matter of priority, to expand the coverage of TSA to include the remaining 40 districts of the country and increase the coverage to 200,000 households or 15 percent of the total. The budget allocation to that expansion has already been provided, but the process needs to be expedited. In the longer-term, additional fiscal costs can be covered from the following sources:
 - (a) Savings in debt service costs under sovereign-guaranteed loans and credits. Currently, BT pays only negligible amount of debt service to MOF under subsidiary agreements, which were used to on-lend the international financiers' resources to BT. With improvement in financial standing of BT, it will be able to make timely payments, which will free up some resources at the state budget.
 - (b) Increased tax revenues from BT given larger revenues due to tariff increases.
- *Introduction of new elements into the TSA mechanism to respond specifically to the needs of increasing energy costs.* It is proposed that a separate new benefit is introduced on top of the TSA general poverty benefit to reflect the need of compensation for the higher energy costs. This would require additional budget allocation. This work is in progress under the ongoing policy dialogue of the Bank, including the ESMAP financed activity on Improvement of Electricity Tariff Setting and Mitigation of Impacts on the Poor.
- *Strengthening of the system for responsiveness and client orientation of BT.* It is recommended to include into the AMI, to be supported under the Program, a new IRMS. It will support better network operations and would allow to better respond to client claims and complaints related to outages and other issues with electricity supply.
- *Increased disclosure of operational and financial data related to BT.* As part of the broader agenda for improvement of corporate governance of BT and improving the access to information by consumers, the Program should promote increased disclosure of data related to power sector balance (from generation all the way down to consumption), outages, as well as tariffs and other financial information.

- *Strengthening of the evidence base on particular vulnerabilities of FHHs towards increasing electricity prices in Tajikistan.* The Program will complement the existing quantitative data with qualitative data to understand whether the rising electricity prices will negatively impact FHHs' ability to continue meeting their energy needs and to afford basic household expenses on food, health, education, etc. Based on the results of this assessment, the Program will contribute to the dialogue on designing of social assistance mechanisms to mitigate negative impacts of electricity subsidy and tariff reforms by ensuring that such mechanisms address particular vulnerabilities of FHHs and support them in affording electricity costs.

7 Assessment of Program Consistency with Core Principles of PforR Policy and Directive and Risk Rating

135. **Overarching Core Principle 1: Environmental and social management procedures and processes are designed to (a) promote environmental and social sustainability in the program design; (b) avoid, minimize, or mitigate against adverse impacts; and (c) promote informed decision-making relating to a program's environmental and social effects.**

136. The Program would operate within adequate legal and regulatory framework. Planning and implementation incorporates recognized elements of environmental and social assessment good practice, including comprehensive EIA and obtaining the positive conclusion of the State Environmental Expertise. Social effects, especially due to tariff increases, will require more attention. Hence, while the environmental assessment pays strong attention on the weakness of the existing environmental management practice and environmental performance in BT, social assessment moves beyond, to reflect on the social protection measures, available, in general, in the country. BT is currently in the process of being unbundled into power generation, transmission and distribution companies with separate assets, staff and accounts. This further exacerbates the risks of inadequacy of E&S system management. The key element for mitigating this risk is a proposed set of activities for establishing effective E&S systems in BT backed up by effective social protection measures and strengthening of the regulatory environment.

137. **Core Principle 2 aims to avoid, minimize, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program.**

138. The procedures for environmental impact assessment and state environmental expertise will be used in the PforR to assess risks and further avoid adverse impacts on natural habitats, and mitigate such impacts where the avoidance is impossible. The procedures for the current environmental control and monitoring will be developed and applied in/for BT system of environmental management to prevent unpredictable negative effects of the PforR activities during the implementation and operation phases.

139. **Core Principle 3 aims to protect public and worker safety against the potential risks associated with: (i) construction and/or operation of facilities or other operational practices under the Program; (ii) exposure to toxic chemicals, hazardous wastes, and other dangerous materials under the Program; and (iii) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.**

140. All these potential risks can occur in the PforR framework and will be evaluated and mitigated through environmental impact assessment, and further development and strict implementation of site-specific environmental and OHS management plans approved by SEE. Particular attention will be paid to the proper management of hazardous wastes, especially PCB-containing transformer oil. The ESSA recommends BT to update and develop specified manuals for handling PCB-containing oil through the full cycle of its management.

141. **Core Principle 4: Manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement, and assist the affected people in improving, or at the minimum restoring, their livelihoods and living standards**

142. The Program's civil works mainly relate to repair and rehabilitation of the existing substations, distribution lines, and construction of new distribution lines of low voltage. The substation rehabilitation activities would not require land acquisition and would be undertaken with existing boundaries of substations' territories, which are fully fenced. Distribution lines are normally laid along the road edges and will be occupying only public land.

143. **Core Principle 5: Give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of the Indigenous Peoples and to the needs or concerns of vulnerable groups.**

144. Key elements are as follows:

- Undertakes free, prior, and informed consultations if Indigenous Peoples are potentially affected (positively or negatively) to determine whether there is broad community support for the program; Ensures that Indigenous Peoples can participate in devising opportunities to benefit from exploitation of customary resources or indigenous knowledge, the latter (indigenous knowledge) to include the consent of the Indigenous Peoples.
- Gives attention to groups vulnerable to hardship or disadvantage, including as relevant the poor, the disabled, women and children, the elderly, or marginalized ethnic groups. If necessary, special measures are taken to promote equitable access to program benefits.
- The social system assessments reveal that the consumer/ affected stakeholders are quite diverse and heterogeneous²⁶. Disaggregated analysis brings to the fore, differential capacity and impacts among the various sub groups of consumers. Poor and vulnerable have been identified and the nature and extent of impacts likely to occur consequent to the Program's key intervention- electricity tariff increases. TSA will be used as key instrument to mitigate the adverse impacts on the poor and vulnerable households. However, ESSA recommends assessing feasibility of alternative mitigation measures as well, such as lifeline tariffs. Within the context of tariff increases and broader power sector reforms, BT will also need to strengthen its public communication capacity.

145. ***Core Principle 6: Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.***

146. The Program does not support any activities that may exacerbate social conflict, including those in fragile states, post-conflict areas, or areas subject to territorial disputes.

147. **Overall environmental and social risk is rated as High given: (a) gaps in environmental management capacity of BT; (b) shortcomings in the system for handling of PCB-containing oils; and (c) insufficient mitigation of the impacts of electricity price increase on the poor.**

²⁶ There are no indigenous peoples in Tajikistan.

8 Inputs into the Program Action Plan

Issue	Action Description	DLI#	Responsibility	Timing	Completion Measurement
Environmental					
Gaps in environmental management policies and guidelines, including on PCB-containing oils.	Develop BT corporate environmental policy and key guidelines, regulations and norms to facilitate adequate environmental performance in implementing rehabilitation, replacement, and upgrade of key electricity T&D assets in 17 regional distribution networks of BT.	-	BT with the assistance of PMU ES.	June 30, 2020.	BT, transmission, and distribution companies adopt corporate environmental policy and key environmental management guidelines and regulations for implementation of T&D rehabilitation and upgrade.
The only existing BT environmental specialist cannot ensure compliance of Program activities (due to large workload) with requirements of applicable environmental legislation and regulations.	Hire additional environmental specialist/consultant at BT and ensure that the newly formed transmission and distribution companies also have adequate in-house environmental capacity.	-	BT.	Dec. 31, 2020.	Adequately qualified environmental staff at BT, transmission, and distribution companies ensuring adequate environmental performance of activities under the Program.
Lack of in-house environmental management capacity at BT and limited knowledge among local contractors with the CEP requirements.	Develop relevant educational modules and organize regular trainings on environmental management for BT, transmission, and distribution companies, and for its contractors.	-	<ul style="list-style-type: none"> - Until Dec. 31, 2021: BT with the assistance of PMU ES and in cooperation with CEP. - From Jan. 1, 2022 till Dec. 31, 2025: BT in cooperation with CEP. 	June 30, 2020 and once per year afterwards.	Fully integrated environmental team of skilled personnel providing due environmental performance in three newly formed companies.
Inadequate reporting on compliance of self-financed infrastructure investment and rehabilitation activities with requirements of environmental legislation and regulations.	Annual evaluation, monitoring and reporting of progress on environmental and social issues, especially regarding the compliance of the Program activities with the environmental legislation and regulations.	-	<ul style="list-style-type: none"> - Until Dec. 31, 2021: BT with the assistance of PMU ES. - From Jan. 1, 	June 30, 2020 and once per year afterwards.	Annual evaluation, monitoring and reporting of progress on environmental and social issues, especially regarding the compliance of the Program activities with the extant environmental legislation and regulations.

Issue	Action Description	DLI#	Responsibility	Timing	Completion Measurement
			2022 till Dec. 31, 2025: BT.		
Social					
Existing TSA does not reach all socially vulnerable consumers and is not adequately funded to protect against electricity tariff increases.	Finalization of design improvements to TSA and alternative mechanism(s) to mitigate the impact of increasing electricity prices on the poor.	-	Ministry of Health and Social Protection.	Dec. 31, 2020.	The improvements to the design and funding to TSA and/or alternative mechanisms to mitigate the impact of increasing electricity prices are adopted.

Annex 1. Public Consultations during ESSA Preparation

#	Date	Entity/Location	Name/title of persons	Issues addressed
1.	February 20, 2019	Office of Consumers Union in Tajikistan, Dushanbe	Ilhom Obidov Executive Director of Consumers Union (CU) Faridun Shoinbekov Deputy Chairman of CU	Mission of the Consumers Union and their experience in the field of protecting the electricity consumers rights
2.	February 21, 2019	Barqi Tojik office, Dushanbe	Yodgori Nosir, Head of the BT Press Service Mr. Asozoda M.Sh./First Deputy Chair/Executive Director of Power Generation (HPP and TPP) joined the meeting for a short time.	OJSHC Barqi Tojik' public outreach strategy
3.	March 5, 2019	Barqi Tojik office, Dushanbe	Yodgori Nosir, Head of the BT Press Service Safarova Dilbar, Head of General and Control Department Gulru Murodova, Chief Inspector of Citizen Reception Unit/division under the General and Control Department	Barki Tojik GRM
4.	March 1-13, 2019	Dushanbe city	Informal consultations with around 20 residents of Dushanbe, representing different HHs (mid-income HHs, FHHs, Elderly HHs, HHs with disable member) and small business.	Satisfaction with the power supply service. Impact of tariff increases on their living standard and business. Willingness to pay more for the reliable electricity supply*
5.	March 13, 2019	Kulob town	Komilov Jaloliddin, Director of Kulob area electricity networks	Current problems, collection rate, their vision on tariffs raising issues*
6.	March 13, 14, 16, 2019	Kulob area jamoats, districts of Panj, Farhor, Hamadoni of Khatlon region	Informal consultations with above 20 low-income HHs, elderly and FHHs, households with a disable member and those depending on remittances	Satisfaction with the power supply service. Impact of tariff increases on their living standard and business. Willingness to pay more for the reliable electricity supply*



Consultation with residents of Zarbdor jamoat of Kulob area, Khatlon region, March 13, 2019

The list of people met

N	Name of consulted specialists	Position, contact information
Barki Tojik (BT)		
	Rezvon Sharipov	Manager of the BT projects, tel. 988718787
	Parviz Murodov	Environmental specialist of BT, 933795050
	M.Mukhametzhanova	Specialist of the Department of electric network distribution, 927277247
	M.Ergisova	Department of sanitary standards and safety, 900175501
	Sirodjiddin Karimov	Head of Social issues and Environmental monitoring, Project Management Unit for energy sector (PMUES) under the Government of Tajikistan, 919602724
	Nasriddin Khamidov	Head of the Construction Department
	Ubaydullo Nabibov	Head of the Project Implementation Group
	Saidov Nurullo	Deputy director of the Department of energy production
	Faizidin Karimov	Leading engineer of hydraulic engineering service
Committee for environmental protection, State Ecological Expertise (SEE) ,		
	Marzadullo Mardonov	Head of the Department of Waste management and Land Resources
	Khusrav Makhmadullaev	Head of SEE, 907776856
	Djalil Khalilov	Deputy Head of SEE, 935580525
	Abdusalim Djuraev	Head of Department on environmental policy and monitoring, 907717213
	Salomat Nazarova	Senior SEE specialist
State "Project Management Unit for Electro-Energy Sector (PMU ES),		
	Zafar Rahmatzoda	Deputy director, 222 25 53

	Syroniddin Karimov	Head of environmental and social SG department
	Shakhlo Kokiroeva	Environmental monitoring specialist
	Aziz Kholov	Environmental monitoring specialist
	Khusrav Sharipov	Social monitoring specialist
Ministry of energy and water resources		
	Daler Abdurazokzoda	Head of Department of science and technologies, 900005590
The Parliament		
	Latipov Rustam	Chair of the environmental Commission
	Safarov Olimjon	Deputy chair of the Committee on agriculture, water and land resources
Ministry of Health		
	Makhmadkul Karimov	Head of Department for monitoring of soil quality, air and water , 9335144235
	Kh.Alidjanov	Senor specialist of the Hygiene Department, 935873265
Independent experts		
	Jalil Buzrukov	Director, Tajik Branch of scientific information center of Interstate commission on sustainable development, International Fund for Saving the Aral Sea, 919 22 7070
	Furug Usmanov	Manager of the CASA-1000 WB project, Tajikistan
	Murod Ergashev	Senior researcher, consultant
	Rustam Nazarov	IFAD pasture management project, consultant
	Tojginisso Nosirova	NGO Nakukor, Director

Minutes of Consultations with BT

The World Bank Team met with Yodgori Nosir, Head of the BT Press Service on February 21, 2019 at Barqi Tojik office. Mr. Asozoda M.Sh./First Deputy Chair/Executive Director of Power Generation (HPP and TPP) joined the meeting for a short time.

The purpose of the meeting was to discuss Barqi Tojik' public outreach strategy.

The following questions were put on table: how BT informs people about tariffs raising, what is the communication strategy and mechanisms for getting customers' feedback, is it workable to establish socially responsible unity\outreach department under the new BT organization structure.

Discussions were the following:

1. **BT public outreach techniques.** The Press Service operating under Main Department of Finance and Administrative Services of Barki Tojik is responsible for establishing effective relations with the mass media and formation of BT positive image, informing consumers as necessary on issues of raising tariffs and timely payments for the power supplied. The Press Service addresses its customers through different public outreach techniques. After the electricity tariff was increased for all categories of consumers by 15% according to the Government Decree #473 from September 25, 2018, BT addressed the country population to explain the reasons for the tariff raise through distributing leaflets; participation of BT representatives on TV and radio broadcasting where they answered to consumers questions, talk shows, and through printing media. Besides BT conducts biannual press conferences with participation of about 40 mass media representatives. Regional power networks are not authorized to conduct the press conferences, but they provide explanations via participating in regular meetings at regional and district levels and through mahalla committee leaders.

The leaflets issued due to the tariff increase from November 1 2018, described that the tariff raise is required for effective maintenance and operation of the power generation and supply infrastructure. The BT structure includes 60 804 km length of wires, 18 617 transformers and over

12 000 employees working hard to provide constant power supply to the country population. However, the infrastructure needs to be renovated over time and this requires solid funding. Besides Barqi Tojik has to produce energy based on international standards, all equipment and spare parts are bought abroad in foreign currency. Therefore, it is necessary to pay timely for the service and use the energy efficiently. Energy is a product, and as a product it costs money. For other goods and products, even for each minute of mobile communication, people pay in advance, whereas the opposite is for energy- the energy comes to consumers houses and enterprises first and only after its usage they pay the service fee. The leaflet explains that that residential households have to pay 19,37 dirams for 1 kWh instead of 16,85 dirams and this amount won't affect low income users as they will receive compensation for this. Despite the tariff increase, it is still one of the lowest in the CA region.

2. **Mr. Asozoda M.Sh./**First Deputy Chair/Executive Director of Power Generation (HPP and TPP) joined the meeting to explain what is being done up to date in terms of the service improvement:
 - accidents in the power supply system decreased by 2 times,
 - stable power supply during two last years,
 - new modern wires,
 - new transformers powerful transformers to reduce losses are installed,
 - aluminum-steel wires are replaced by aluminum isolated ones
 - since 2018 the site operates for customers
3. In terms of feedback mechanisms for citizens - BT has **Citizens Reception Department**. Customers can address BT in written, electronically through BT website, and verbally. Each Saturday from 8:00 to 12:00 is a day for citizens reception in Dushanbe and all regional and district BT divisions. This day all leadership and specialists of the company receive consumers. During January and February of 2019, 31 appeals were registered in central BT by the Citizen Reception Unit that operates under General and Control Department within Main Department of Finance and Administrative Services of BT. There is one specialist, Chief Inspector working in the Citizen Reception Unit that keeps track of all appeals from consumers (written\oral\received via website) in the separate notebooks, directs the appeals to appropriate departments and makes sure the customers' requests are addressed properly and in timely manner. Time for consideration of citizens appeals varies depending on the issue. Some issues can be addressed at once, others take average 10 days. Citizens receive answers in written on BT letterhead.
4. **Currently the BT structure in the process of modification**. In 2011, the Government of the RT issued Decree No. 431, "On the Individual Restructuring Plan of the OJSHC Barqi Tojik. This document emphasizes the government's commitment to reform and tasks ministries and agencies to take action. With the support of the Asian Development Bank, in November 2012, the implementation of the Technical Assistance Project "Improving the sector's operating activities" began.
5. Since 2012, at ADB financial support the Barqi Tajik has been restructured into three business units (production, distribution and transmission). In addition, guidelines for the implementation of various activities were developed, the separation of assets and liabilities, the separation of financial reporting systems and the management of dispatching services were carried out. In 2018 the Government of the Republic of Tajikistan adopted Resolution No. 234, which provides for the creation of two new legal entities (OJSC Transmitting Electrical Grids and OJSC Distribution Electric Grids) on the basis of existing legal entities comprising Barqi Tojik.
6. The BT restructuring also provides for improved electricity metering system. In this regard, **automated billing and collection system** was piloted in Khujand, Sughd Region at EU financial institutions support. As a result, collection rate of payments reached 102%. The system excludes corruption and energy losses.

7. **Establishment of socially responsible unit\outreach department.** The company's communication strategy is mainly aimed at the dissemination of information, and there is no specially developed communication or information plan. BT addresses its customers, when the need arises. BT considers that establishment of a socially responsible client-oriented unit (public outreach department or Public Council) at the new BT structure is pointless as customers have enough existing mechanisms to submit their appeals and get proper feedback.

Minutes of Consultations with Consumers Union (CU) of Tajikistan

The World Bank team met with Ilhom Obidov, Executive Director of Consumers Union (CU) of Tajikistan, and Faridun Shoinbekov, Deputy Chairman of CU, on February 20, 2019 at the office of Consumers Union.

The purpose of the meeting was to discuss mission of the Consumers Union and explore their experience in the field of protecting the electricity consumers' rights.

The following questions were put on table: How does CU function; what is the method or regular system of data collection by CU; what problems do consumers address to them, CU relationship with OJSHC Barqi Tojik; is there any communication platform that involves all stakeholders, is there any network of organizations that protect consumers rights in the power sphere; what would happen if electricity tariff goes up; CU experience in power sector (reports to share).

WB team first provided overview of the upcoming WB Power Sector Financial Recovery Program that aims to support Government of RT efforts in energy sector reforming, including financial recovery of main energy company Barqi Tojik (BT), which provides for electricity tariff increases for all categories of consumers.

Discussions were the following:

1. The **Consumers Union** is created by General Assembly of the founders on July 10, 2002 (officially registered by Ministry of Justice of Tajikistan in October 4, 2002, certificate # 56). The consumer association "Consumers' Union" (CU) is a non-for-profit, non-governmental organization. The purpose of creation of Consumers Union is assistance in consumers' rights and interests' protection, building a fair and competitive market of goods and services in Tajikistan. Since December 2007 Consumers Union (former local consumer group) became national consumer association and was renamed to Consumers Union of Tajikistan (Certificate of re-registration # 481 «A», 24.12.2007).

The CU is affiliated member of Consumers International, full member of International confederation of consumer societies KonfOP, and member of NGO Forum at ADB. Since October 20, 2003 the Consumers Union has declared the beginning of work of **"hot telephone line"** for consumers. Within the framework of the "Hot line" program the legal service of the Consumers Union accepts citizens' appeals on their consumer rights violations. The CU has two regional offices- in Khujand, Sughd region and Bohtar, Hatlon Region.

In 2008 CU joined the Electricity Governance Initiative (EGI) - network of civil society organizations dedicated to promoting transparent, inclusive and accountable decision-making in the electricity sector. World Resources Institute (Washington, DC) and Prayas Energy Group (India) serve as the global secretariat for EGI. Within framework of this program CU created the constant working civil monitoring network for Tajikistan's electricity sector (more information at the www.barknest.info).

2. CU protects only the rights of residential consumers of electricity (HHs).
In order to obtain the consumers' support, the process of raising tariffs for electricity services must be transparent and comprehensive. Within 10 last years the tariff increased by 100%: from 0,7 to 0,19 somoni. Costumers should be informed about the reasons for the fee raising by means of clear indicators. They should know and understand what exactly they are paying for.
3. Public council should operate at BT to ensure consumer rights protection. The CU attempted to establish such a mechanism, but this initiative was not supported by BT.

4. **The problems that HHs face with** don't change over the years. Consumers turn to the CU with the following issues:
 - a) Inadequate metering service/no standardization/ faulty meters. According to the country legislation the service provider is responsible for the meter, its seal status and serviceability. Thus, the service provider must regularly check their equipment and carry out preventive maintenance to ensure it is in good working condition.
 - b) Not working hotlines. Until 2016 there was limited power supply throughout the country in winter period. In this period BT opened hotline phone numbers for consumers to address their appeals in Dushanbe and regional offices. However, consumers reported to CU that the lines were not working.
 - c) Wrong installation of electric panels. There were cases of improper installation of the panels close to the ground in accessibility for children reported by the CU volunteers.
 - d) Illegal fines for faulty meters. At the WB financial support old meters were replaced with e-meters in Gissar district. There were cases reported to CU by HHs regarding illegal fines on breakdowns of the meter's seals or faulty meters. The controller of the local power grid came into the house, asked the owners to bring a drink and, using their absence, broke the seal and then issued the fine. After taking certain measures by CU she was dismissed, but then she was hired to work in another area. The fines were cancelled. The question is - **why to raise tariffs if the system is not working correctly**. The system should operate effectively first otherwise the tariff increase is useless.
 - e) Incorrect calculation of power consumption. In Gissar a household owner didn't live in his house, but was forced to pay for electricity.
 - f) Power outage in rural areas in winter period. In the case of a transformer failure, the residents had to buy it and wires at their own expense, however this was not taken into account during payments for the service.
 - g) Power fluctuation/Low voltage. – In the frame of Electricity Governance Program, CU received a special equipment - line voltage meter. They measured the grid voltage with this device and detected that it was 165 V instead of 220 V, in particular in winter period.
5. There is no regular system\methods of the data collection established by CU, usually customers address CU themselves as needed in Dushanbe or through regional offices (Khujand, Bohtar) via email, Facebook, phone, direct visit, hot lines, sites of www.barknest.tj and www.obinushoki.tj. In 2012 CU established a network of volunteers in 59 cities of the country to monitor electricity supply. During these years there was a limit in electricity supply. CU does not possess necessary resources for systematic approach.
6. Relationship with BT is complicated and there is no communication platform. However, there was a dialogue in the regions – round table discussions were conducted with the BT enterprises and public councils were established at the service providers during 6 months on the pilot bases. The public councils met on monthly basis to discuss existing issues with power supply. After this experience CU attempted to establish the same Public Council at BT, but BT didn't support the initiative. CU turned to Ministry of Energy and Water Resources. As a result, the MEWR developed an informational strategy (2018-2020) and CU included establishment of the Public Council to the strategy. CU cannot maintain performance of the Public Council (that includes representatives of BT and Pamir Energy) as it requires resources, equipment.
7. There is a Law on Natural Monopolies according to which the service providers should conduct Public hearings (PH) before increasing their service fee, but BT does not conduct PH.
8. There is no concrete entity or network of organizations that protect consumers rights in the power sphere. Tajikstandart and Antimonopoly Agency are dealing with the issue at certain extend. CU

cooperates with Antimonopoly Agency as Antimonopoly Agency often readdress consumers' appeals to CU.

9. **Impact of tariff increase** – Power tariff increase will immediately lead to water supply tariff increase as well as other utility services fees. As the result, cost of all products, including food will go up. The tariff increase will more affect the urban area due to houses heating by electricity in winter period.

Last increase in tariff already affected small enterprises. For instance, a number of small bakeries closed as payment for the power reached 5000-7000 somoni per month and their business became unprofitable. Farmers that are using pump irrigation were also affected - VAT increased for them from 5% to 18% in 2019.

At the end the CU shared their brochures and relevant reports with the WB team.

Annex 2. National Legislation and International Treaties

Annex 2: Table 1: List of National Laws and Regulations

- Law on Consumer Rights (2004, last amended 2018);
- Law on Energy Savings and Energy Efficiency (2013);
- Law on Energy (2000, last amended 2013);
- Concept on Tariff Regulation in Energy Sector (2017);
- Law on Safety of Hydro-technical Facilities (2010, last amended 2018);
- Law on Indexation of Population's Income considering the Price Growth of Consumer Goods and Services (1997 never amended);
- Law on Natural Monopolies (2007, last amended in 2017);
- Law on Public Procurement of Goods, Works and Services" (2006, amended in 2012);
- Law on Targeted Social Assistance (2017);
- Land Code (1996, amended 2016);
- Law on Land Administration (2008, amended 2016);
- Law on Land Valuation (2001);
- Regulation # 641 "Order of compensation for losses of land users and damage of the agricultural production process", approved by the Resolution of the Government of the Republic of Tajikistan (2011);
- Civil Procedural Code;
- Law of Republic of Tajikistan on Appeals of Individuals and Legal Entities (2016);
- The Law on Freedom of Information;
- Law on Public Meetings, Demonstrations and Rallies (2014);
- Labor Code (2016);
- National Program on Liquidation of Worse Forms of Child Labour for 2015-2020 (2014).

In addition to national legislation and regulations on social issues²⁷, Tajikistan is also party to several international treaties focused on environmental and social issues.

Annex 2: Table 2: List of International Treaties and Convention ratified by Tajikistan

- Rotterdam Convention on Prior Informed Consent (PIC) procedure (ratified in 1998);
- Signatory of the Stockholm Convention on Persistent Organic Pollutants (2002);
- Convention on Biological Diversity (1997) and to its Cartagena Protocol on Biosafety (2004);
- Convention for the Protection of the World Cultural and Natural Heritage (1992);
- The United Nations Convention to Combat Desertification (1997);
- The United Nations Framework Convention on Climate Change (1998);
- The Ramsar Convention (2000);
- The Convention on the Conservation of Migratory Species of Wild Animals (2001).
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (2016);
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (2016)
- Convention for the Safeguarding of the Intangible Cultural Heritage (2006);
- International Covenant on Economic, Social and Cultural Rights;
- Convention on the Elimination of all forms of Discrimination Against Women;
- Convention on Minimum Age for Admission to Employment (1993);
- Convention on Worst Forms of Child Labor (2005);
- Abolition of Forced Labor Convention (1999);
- Employment Policy Convention (1993);
- Labour Inspection Convention (2009);
- UN Convention on the Rights of the Child CRC (1993);
- Tripartite Consultation (International Labor Standards) Convention, (2014);
- Occupational Safety and Health Convention (2009).

²⁷ ILO Information System on International Labour Standards verified on 16.02.2019

Laws, Rules and Regulations in Environmental Sector

Strategic documents on environment

There are several strategic documents covering specific direct and cross-cutting environmental issues, such as State Environmental Programme for the period 2009-2019, Programme on Improving Access of the Population to Clean Drinking Water for the period 2008-2020, State Comprehensive Programme of Development of the Environmental Awareness and Education of the Population until 2020), The Programme of Water Sector Reform for the period 2016-2025. There are some strategic documents adopted specifically to facilitate implementation of commitments taken by Tajikistan under international environmental agreements, such as the National Implementation Plan of the Republic of Tajikistan on Realization of the Stockholm Convention on Persistent Organic Pollutants.

Environmental legislation

The system of legal acts in Tajikistan includes, from the top downward, the Constitution; laws adopted by national referendum; international agreements to which Tajikistan is party; constitutional laws; codes and laws; joint resolutions of the two chambers of the parliament, Majlisi milli (National Assembly) and Majlisi namoyandagon (Assembly of Representatives); resolutions of Majlisi milli and resolutions of Majlisi namoyandagon; decrees of the President; resolutions of the Government; resolutions of ministries, state committees and other state bodies; and acts of the local representative and executive authorities.

Environmental laws

The "Framework Environment Law on Environment Protection" (2011) stipulates that Tajikistan's environmental policy should give priority to environmental actions based on scientifically proven principles to combine economic and other activities that have an impact on the environment with nature preservation and the sustainable use of resources. The Law defines the applicable legal principles, the protected objects, the competencies and roles of the Government, the State CEP for Environment, the local authorities, public organizations and individuals. The Law stipulates also measures to secure public and individual rights to a safe and healthy environment and requires a combined system of ecological expertise and environmental impact assessment of any decision on an activity that could have a negative impact on the environment. The Law also defines environmental emergencies and ecological disasters and prescribes the order of actions in such situations, defines the obligations of officials and enterprises to prevent and eliminate the consequences, as well as the liabilities of the persons or organizations that caused damage to the environment or otherwise violated the Law. The Law establishes several types of controls over compliance with environmental legislation: State control, ministerial control, enterprise control and public control. State control is affected by the CEP, the Sanitary Inspectorate of the Ministry of Health, the Inspectorate for Industrial Safety and the Mining Inspectorate. Public control is carried out by public organizations or trade unions and can be exercised with respect to any governmental body, enterprise, entity or individual. The novelties of the Law include provisions on strategic planning in environmental protection, provisions on rights of public associations in the area of environmental protection, concepts of environmental certification and environmental audit, and a chapter on compensation for environmental damage. The Law is more detailed on the delineation of responsibilities of the environmental and sanitary authorities in setting ambient quality and emissions standards, and on the environmental requirements for sectoral activities. Remarkably, the Law introduced the presumption of environmental danger from all planned activities and stated that decisions on siting the potentially dangerous projects are to be taken after considering the opinion of people living in the area.

The Water Code (2000) stipulates the policies on water management, permitting, dispute resolution, usage planning and cadastre. It promotes rational use and protection of water resources exercised by all beneficiaries and defines the types of water use rights, authority and roles of regional and local governments for water allocations among various users, collection of fees, water use planning, water use rights and dispute resolution. The Code delegates Water User Associations to operate and maintain on-farm irrigation and drainage infrastructure. In 2012, a new chapter was added to the Code, devoted to basin management of water resources. It provides for the creation of the National Water Council to coordinate

the activities of various bodies for basin water resources management and the development of basin plans for the use and protection of water resources, as well as the establishment of basin water councils.

The Land Code (1992) defines the types of land use rights, the authority and the role of regional and local governments for land allocation, collection of land taxes, land use planning, land use right mortgaging and settlement of land disputes. It defines the rights of land users and lease holders. The Land Code regulates land relations and it is directed at the rational "use and protection of land and fertility of the soil". The land may be used in a rational manner only and the Code allows local authorities to decide what constitutes "rational" land use. It includes also mechanisms that make it possible to take the land-use permit away from users, including in situations where land use causes land degradation. This decision is taken by the district administration.

The 2011 Forest Code regulates the organization of forestry, monitoring and inventory of the state forest fund, afforestation and reforestation and permitting of forest use, and establishes the State Inspectorate on Forest Protection.

Land Administration (2001). The Law obliges the authorities to map and monitor the quality of land, including soil contamination, erosion and water logging.

The Law on Ecological Expertise (2012) streamlines the procedures of environmental assessment of projects. It brought several procedural adjustments such as introducing more flexibility into the duration of the State Ecological Expertise (SEE), which is now linked to the complexity of projects. The Law introduced the right for the public to participate in the development (and not only the discussion) of EIA data, but did not provide details to enable implementation of this right. It increased the rights in relation to the public ecological expertise, such as the obligation of the proponent to provide to the public project documentation of the same completeness and complexity as to the SEE.

The 2011 Law on Environmental Audit provides for mandatory and voluntary environmental audit to be performed by licensed environmental audit organizations. The mandatory audit takes place upon the decision of governmental authorities.

The Law on the Licensing of Certain Types of Activities (2004, amended in 2015) include several types of activities, in particular handling hazardous waste; environmental audit; collection and processing of ferrous and non-ferrous scrap metals; and others. The licenses are to be issued by the CEP under the Government, which is also the specially authorized state body in charge of regulating environmental audit.

The 2012 Law on the Protection of Atmospheric Air introduces the classification of sources of emissions of air pollutants and provisions regulating the requirements on air protection for stationary and mobile sources, for combustion of fuels and incineration of waste, and for harmful physical effects (noise, vibration, electromagnetic fields, etc.), as well as provisions on air protection during unfavourable meteorological conditions.

The 2010 Law on Drinking Water and Drinking Water Supply obliges local authorities and owners of water supply systems to take measures in the event of interrupted functioning of drinking water supply systems. The Law includes the requirements for sanitary protection zones for all sources and systems of drinking water supply.

The 2011 Law on Environmental Monitoring describes the organization of the Consolidated State System of Environmental Monitoring and establishes the state register of environmental monitoring objects. The Law provides for obligations of enterprises to organize local environmental monitoring, i.e. monitoring at facility level.

The 2015 Law on Inspections of Economic Entities provides a detailed description of several procedural aspects and strengthens the risk- based approach to inspections, by setting the general risk-assessment criteria and requiring inspection authorities to elaborate specific risk-assessment criteria. It introduces the Council for Coordination of Activity of Inspection Authorities as a mechanism to improve coordination.

The 2011 Law on Permitting set the legal, organizational and economic basis for the permits system: the list of activities that require a permit, the permitting procedure, and the types of permits and the competent state bodies authorized to issue them. The Law was one of the elements of the country's permit system

reform that reduced the total number of types of permits (more than 600) to only 88. Eight types are issued by the CEP.

The 2004 Law on Industrial Safety of Dangerous Production Facilities provides a regulatory framework focused on accident prevention at dangerous industrial installations..

The 2011 Law on Environmental Information is a new law for Tajikistan. It describes the notion and categories of environmental information and regulates terms and conditions of access to such information.

The 2010 Law on Environmental Education of the Population aims to ensure that all citizens receive minimum ecological knowledge and declares the mandatory character of ecological education at all levels of the educational system.

The 2002 Law on Waste from Production and Consumption was amended in 2011 to include the concept of waste ownership, to introduce the notion of abandoned waste and the responsibility of local executive authorities for handling abandoned waste, and to clarify the competences of various governmental bodies in waste management.

The 2015 Law on Oil and Gas declares the need to observe environmental protection requirements during exploration and use of oil and gas reserves and requires SEE for mining facilities and for oil and gas pipelines.

The 2015 Law on Ensuring the Environmental Safety of Road Transport provides for the introduction of ecological classification of imported vehicles, inspections of the ecological status of vehicles, introduction of fuel standards, production and sale of ecologically clean fuel, systematic control of fuel quality, introduction of technologies for secondary treatment or decontamination of car batteries, and ecologically safe disposal of end-of-life vehicles, used tyres and car batteries and used oil.

The 2012 Code on Urban Planning declares the observance of environmental protection and ecological safety requirements and sanitary rules and standards among key requirements of urban planning.

The 2011 amendments to the Law on Ensuring the Sanitary-Epidemiological Safety of the Population introduced the notion of sanitary and epidemiological expertise, which checks the compliance of project documentation and economic facilities to state sanitary and epidemiological rules and standards, and also enhanced the provisions on sanitary-hygienic, anti-epidemic and information measures.

Legislation on the Occupational Health and Safety (OHS)

There are several documents playing crucial role in labour health and safety decision-making process.

Under the Constitution of the Republic of Tajikistan everyone has the right to safe labour and health protection, which requires the state measures to improve the environment (Article 38)

Labour Code of the Republic of Tajikistan contains main occupational health and safety principles? including: a working environment that meets safety and health requirements; the responsibility of the employer for violation of OHS requirements; restrictions on work in harmful or hazardous labour condition; training and instruction of employees on OHS matters; development and introduction of instructions on OHS that are mandatory for the employees.

The Law of the Republic of Tajikistan on Occupational Safety (2007) lays down the main provisions on ensuring the constitutional rights of citizens to occupational safety and guarantees the right to safe labour, sets down the main principles of occupational safety in the workplace and envisages economic mechanisms of ensuring occupational safety. The law applies to all the ministries, agencies, concerns, associations, enterprises, organizations, institutions, cooperatives, lease and other organizations regardless of the form of ownership and business activities.

The Law of the Republic of Tajikistan on inspections of business assets (2006) sets an order of inspections, rights and obligations of business assets and officials of inspecting authorities and aims protection of this activity from unwarranted intervention. Inspection of business assets are performed by authorized state agencies, in particular: on protection of environment and forestry - by an authorized agency on protection of environment and forestry; on protection of labor during production process - by an authorized agency on labour protection; on compliance with sanitary norms and rules - by an authorized agency, performing Sanitary and Epidemiological Surveillance.

Law on public sanitation and epidemiology welfare (2013) sets legislative, organizational and economical frameworks, measures, relating provision of sanitation and epidemiology welfare of population. It defines right of citizens on friendly environment (natural environment, labour conditions, accommodation, recreation, training, food, consumerable and used goods) and for full access to reliable information on sanitation and epidemiology situation, condition of environment, quality and safety of products of manufacturing and technical purpose, food and drinking water.

Environmental regulations and standards.

Norms are set for air and water pollution, noise, vibration, magnetic fields and other physical factors, as well as residual traces of chemicals and biologically harmful microbes in food. The exceeding of their thresholds results in administrative action, including financial sanctions. Several ministries determine environmental quality standards, each in its field of responsibility.

Standards.

Standards are divided into national, territorial, sectoral and standards into account the requirements to means of production, transport, processes, raw and other materials, the working environment as well group protection of workers. Under an agreement signed by the CIS heads of states the Republic of Tajikistan recognizes the standards, norms and rules developed and applied by the Gosstandart of the former USSR and the Russian Federation, including: Sanitary rules and norms (SanPiNs); Construction norms and rules (SNIPIs); State standards of occupational safety and health systems (GOST OHS); Norms of harmful substances content (maximum allowable concentrations and levels).

Legal framework for Environmental Impact Assessment (EIA)

Two laws (Law on Environment Protection (updated in November 2018) and Law on Ecological Expertise (2011)) stipulate all aspects of the EA. The Law on Environment Protection introduces the concept of state ecological review (literally, state ecological "expertise" - SEE) which seeks to examine the compliance of proposed activities and projects with the requirements of environmental legislation and standards and ecological security of the society. The mentioned laws stipulate the mandatory cross-sectoral nature of SEE, which shall be scientifically justified, comprehensive, and objective and which shall lead to conclusions in accordance with the law. SEE precedes decision-making about activities that may have a negative impact on the environment. Financing of programs and projects is allowed only after a positive SEE and conclusion has been issued. The laws stipulate that all types of economic and other activities shall be implemented in accordance with existing environmental standards and norms and shall have sufficient environmental protection and mitigation measures to prevent and avoid pollution and enhance environmental quality. The SEE studies analyzing the short- and long-term environmental, genetic, economic, and demographic impacts and consequences shall be evaluated prior to making decisions on the sitting, construction, or reconstruction of facilities, irrespective of their ownership. If these requirements are violated, construction will be terminated until necessary improvements are made, as prescribed by the Committee for Environmental Protection and/or other duly authorized control bodies, such as sanitary, geological, and public safety agencies. The Environmental Protection Law states that a SEE should be conducted by the CEP, which has a comprehensive mandate that includes policy formulation and inspection duties. The CEP has divisions at each city or district. A small unit in the ministry is entrusted with guiding and managing both EIA and SEE. EIA preparation is the responsibility of the proponents of public- and private-sector projects, who, in addition to complying with various environmental standards, procedures, and norms, shall meet the standards of other sectors and environmental media line agencies, such as sanitary-epidemiological, geological, water, etc. The proponent should develop all of the EIA materials, including alternatives and mitigation measures, ensure public participation in discussions and take comments into account. The role of the State at this stage is limited to the selection of the project site and approval of the terms of reference (the latter usually never occurs in practice).

An Environmental Impact Assessment (EIA) is a component of the SEE, and its procedure includes: General guidelines, terms of reference, coordination and approval of design estimates, development of the EIA text, state approval, and feasibility documents. The EIA should follow the categorization of the proposed activities, which contains 180 types of activities, grouped according to four environmental impact categories: from A (in Cyrillic sounds A) "high risk" to Г (in Cyrillic sounds G) "local impact"). If the activity is

not included in the list, then it is not required to pass either an EIA or a SEE. The EIA is the responsibility of the project proponent. The "Procedure on Environmental Impact Assessment" (2013) establishes general requirements for the contents of the EIA documentation. The State Ecological Expertise for all investment projects is the responsibility of the CEP and its regional offices. Furthermore, according to the Law on the State Ecological Expertise, all civil works, including rehabilitation, should be assessed for their environmental impacts and the proposed mitigation measures reviewed and monitored by the CEP. A detailed project description and the EIA study are the basis to go for the environmental permit and have to be submitted to the CEP. As a rule, the CEP prepares its conclusion within one month. The CEP provides three options of the conclusion: allowed, not allowed, and allowed on conditions (usually some additional requirements) to be followed by the company during the activity. If the CEP concludes that an environmental permit cannot be provided due to different circumstances, the company can change its design and resubmit the documents once again. It is not allowed to change the approved project to the detriment of environmental safety requirements.

Public participation. SEE and *public ecological expertise* are not equal. The element of public participation in the EIA procedure is described in detail in the Procedure (Order) for Conducting an EIA. The procedure assumes public discussions only after the preparation of the EIA report by the project's customer. While SEE expertise is an obligatory prerequisite for beginning any activity that may have an adverse environmental impact, public ecological expertise is required only after its results have been approved by CEP. The SEE is authorized to invite leading scientists and qualified independent specialists to participate in the review. Approval should be issued within 30 days, unless the project developer agrees to an extension, and remains valid for two years, if the decision is positive. For very complicated projects the term of consideration and approval can be extended for 60 days. According to the Law on SEE the public ecological expertise can be carried out by any public organization and citizen. They have a right to send the proposals to the responsible government bodies. The materials reflecting the public expertise delivered to the experts' commission should be taken into consideration under preparation of conclusion of the SEE. The public ecological expertise is carried out under the state registration of application from the public organization (within 7 days). The public organizations organizing this expertise should inform the population about the expertise and then about its results.

Legal framework for environmental penalties

When detecting violations of environmental legislation, waste management in particular, the CEP authorities apply penalties in accordance with the following articles of the Administrative Code of the Republic of Tajikistan. Namely:

Article 223. Violation of standards, rules, regulations, instructions and other environmental requirements for the protection of the environment and the rational use of natural resources;

Article 224. Release (discharge) of polluting substances into the environment with excess of standards or without a permit, waste disposal, physical and other harmful effects

Article 232. Violation of environmental protection requirements during transportation, disposal, use, disposal (dumping) industrial, household and other wastes into the natural environment.

The fines can only be witnessed by the local CEP authorities.

Annex 3. Potential Adverse Environmental Impacts

Annex 3: Table 1. Potential Adverse Environmental Impacts of the Program

No	Project activity	Type of impacts	Scale of impact (local/ regional; temporary/ permanent)
1	Repair and replacement of power and voltage transformers at substations; replacement of old oil circuit breakers with vacuum circuit breakers at substations;	Pollution of land and ground water by oil products, spilling of transformers' oil containing PCBs; Health and labor safety impacts	Local and temporary
2	Construction of new 0.4 kV and 10 kV power distribution lines, and rehabilitation of existing power distribution lines.	Construction-related impacts (dust, noise, safety, loss of access to public facilities) Waste accumulated during dismantling of equipment and construction units	Local and temporary
3	Replacement of disconnectors at substations; installation of new relay protection and automation cubicles at substations	Labor safety Solid waste management	Local temporary

Annex 4. Key Elements of the PCB-containing Materials Management

PCBs are highly toxic to aquatic organisms in relatively low concentrations. The 2001 Stockholm Convention on Persistent Organic Pollutants banned their production.

The following potential PCB contamination scenarios can occur without adequate measures within the PforR framework:

Spills:

- Maintenance operations
- Transport operations
- Draining, refilling operations
- Drainage systems, storm water systems, discharge points, sumps, and areas adjacent to surface waters
- Disconnection/disassembly of transformers
- Lack of spill containment provisions in work pits/servicing areas
- Improper storage.

Leaks:

- Normal wear of equipment in service (e.g., valves, gaskets, and fittings)
- Dismantling/reassembly of equipment
- Damaged equipment
- Cracked or damaged transformer bushings
- Containers used for storage and transport
- Equipment stored for disposal or reuse.

Improper storage of PCB-containing and/or PCB-contaminated equipment, and

Low level of worker knowledge of hazards

- Spread of contamination through insufficient protective clothing and equipment
- Improper handling techniques
- Improper disposal of defective PCB-containing and/or PCB-contaminated equipment.

Other

- Contaminated waste liquids
- Contaminated rags, filter media, and debris gathered during cleanup operations
- Contaminated parts
- Contaminated soil
- Fires

When handling waste oils that contain persistent organic pollutants, one should be guided by the provisions of the Stockholm Convention on Persistent Organic Pollutants (Stockholm, May 22, 2001). It is prohibited:

- discharge of the above substances into water bodies, onto the soil and into public sewer networks;
- their removal to landfills for household and industrial waste, and burial;
- mixing them with natural oil (gas condensate), gasoline, kerosene, other fuel in order to obtain fuel intended for power plants;
- mixing them with products containing organohalogen compounds;
- the use of such substances as anti-adhesive materials and means for impregnating building materials.

Annex 5. Projects Funded by International Donors during Last Five Years and Relevant National Implementing Agencies

Completed projects:

2015. Power transmission line - 220 kV: Kairakum – Asht (78 km). PMU ES

2016-2017. Power transmission line “Geran –Rumi (78 km). PMU ES

2016-2017. Ayni-Rudaki transmission line (98.5 km). PMU ES

2018 Transmission lines-500 kV “Dushanbe – Rogun (two lines, 100 km each). PMU ES

The following main projects are **currently being implemented** in the energy sector, which follow the environmental requirements of the relevant donors:

- Regional power transmission project, by the ADB. PMU ES
- Rehabilitation of Sarband HPP with capacity of 240 MW, by the ADB. PMU ES
- Rehabilitation of Ravshan 220/35 / 10kV, by Islamic Development Bank, Export-Import Bank of the China and Government of the Republic of Tajikistan. PMU ES
- Implementing the Ledging of Power Transmission and Improvement of Electricity Supply, by the ADB. PMU ES
- Regional Electricity Transport Project (CASA - 1000), by Islamic Development Bank, EBRD, European Investor Bank, USAID, World Bank, DFID, and Government of the Republic of Tajikistan. PMU ES
- Reconstruction and construction of 500 kV power transmission line in the republican subordination, by the Export-Import Bank of China. PMU ES
- Energy Conservation for the Winter Period, by the World Bank. PMU ES
- Sugd Energy Loss Reduction Project, by EBRD, European Investor Bank, and European Commission. PIU BT
- Qairokkum Hydro Power Rehabilitation Project, by EBRD. PIU BT
- Norak Hydro Power Rehabilitation Project, Phase 1, by the ADB, World Bank. PIU BT

Annex 6. Stakeholder Analysis

Stakeholder Mapping

Stakeholder is defined as an individual/ institution (agency) that can impact upon or get impacted by the project. In order to define a communication process with the stakeholders, several groups that may be interested and/or affected by the project implementation have been identified. There are a number of groups of people and social groups who are interested in the Project on different levels.

The project stakeholders identified so far are listed in the table below. The list can be updated and modified in the course of the Project implementation and as a result of cooperation of the parties. Stakeholder mapping is done vertically (across the administrative space) and horizontally (within an individual space). Each stakeholder / group is rated for the relative importance- starting from rating from 1 to 5 stars. Five being high and is to be accorded full scale attention.

Universal Mapping

Annex 6: Table 1. Stakeholder Mapping and their Significance

SI No	Level – Administrative Space	Stakeholders	Significance *****
1.	National / Country	Ministry of Energy and Water Resources (MEWR)	*****
		Ministry of Finance	***
		Open Joint Stock Holding Company “Barqi Tojik”	*****
		State Service for supervision in Energy Sector	***
		Committee on Environment Protection (CEP)	**
		World Bank	*****
		International Financial Institutions/donors (Asian Infrastructure Investment Bank (AIIB), International Development Association (IDA), ADB, IMF, EBRD, KfW Development Bank, USAID)	****
		Anti-Monopoly Service	****
		Donor Coordination Unit/Energy Working Group	***
		Investment and State Property Management Committee	***
		Ministry of Labor, migration and employment of the Republic of Tajikistan (MLME)	**
		Sanitary and Epidemiological Department under Ministry of Health and Social Protection	**
		Land Reclamation Agency and State Land Cadaster	**
		Consumers Union (CU)	***
		Tajikstandart	**
		Tajik Aluminum Company (TALCO)	*
		Large State-owned enterprises (SOEs)	***
		Mass media	***
		2.	Provincial
Line departments of the MEWR	***		
Consumer Union’ regional branches	***		
Mass Media	***		

3.	District\city	District electricity companies	****
		Local governments (khukumats)	***
		Hydropower Plants (HPPs) and Thermal Power Plants (TPPs)	****
		Industries (cement, vegetable oil, food processing, cotton processing)	****
		Urban electrified transport	***
		Small and medium enterprises (SMEs), petty shops, commercial establishments	****
		Water utilities	***
		Social institutions (schools, hospitals)	****
		Print media	**
		Community based organizations (CBOs)	**
4.	Sub District \jamoat	Private sector	***
		Farmers	***
5.	Village	Water pump stations	***
		Water users association (WUA)	***
6.	Mahalla	Mahalla leaders	***
		Urban mid and high-income users /households	****
		Urban low-income users	*****
		Urban female headed households (FHH)	*****
		Urban elderly\disable HHs	*****
		Urban HHs depending on remittances	*****
		Rural mid- and high-income users	****
		Rural low-income users	*****
		Rural FHHs	*****
		Rural elderly\ disable HHs	*****
		Rural HHs depending on remittances	*****

Segmentation/ Prioritization:

The identified project stakeholders were segregated by their areas of influence. The stakeholders of high and substantial significance that received 4-5 stars are described in the Table 2 below.

Annex 6: Table 2. Stakeholder Segmentation

No	Level – Administrative Space	Stakeholders	Areas of Influence
1.	National / Country	Ministry of Energy and Water Resources	Regulator of energy policy in the country
		International Financial Institutions/donors (Asian Infrastructure Investment Bank (AIIB), International Development Association (IDA), ADB, IMF, EBRD, KfW Development Bank, USAID)	Providing TA to the Government of RT in addressing the power sector challenges.

		OJSHC “Barqi Tojik”	The state-owned utility responsible for generation, transmission, and distribution of electricity in Tajikistan. Project implementation, oversight, reporting
		WB	Supervision, no objections, implementation support
		Anti-Monopoly Service under the Government of RT	Responsible for review and approval of tariffs for all-natural monopolies, including electricity tariffs
2.	Provincial	Regional electricity networks	Responsible for power distribution
3.	District	District electricity companies	Responsible for power distribution, billing and collection
		HPPs and TPPs	Power generation facilities
		Industries	Production of cement, vegetable oil, food processing, cotton processing
		Small and medium enterprises (SMEs), petty shops, commercial establishments	Bakeries, cafes, canteens, sale of different goods, small production and sale of food and non-food products, office services (copying, scanning of documents, printing and translation of documentation). Repair of computer equipment, phones, watches. Legal services, translation agencies and etc.
		Social institutions	Provision of social services to population (hospitals, schools)
4.	Households	Urban mid and high-income users /households	Will be directly affected by the project. The project success depends on their willingness to pay
		Urban low-income users	Will be directly affected by the project. The project success depends on their ability to pay. They cannot afford paying electricity fee without government support.
		Urban female headed households (FHH)	
		Urban elderly HHs	
		Urban HHs depending on remittances	
		Rural mid- and high-income users	Will be directly affected by the project. The project success depends on their willingness to pay
		Rural low-income users	Will be directly affected by the project. The project success depends on their ability to pay. They cannot afford paying electricity fee without government support
		Rural FHHs	
		Rural elderly HHs	
		Rural HHs depending on remittances	

Stakeholder Analysis

The key stakeholders have been separated by levels and sub groups. Table 5 below is based on consultations/ discussions with the respective sub groups. It describes the current status of subgroups,

their concerns and issues raised; their expectations and significance of risks associated with high expectations and proposes the enabling conditions to mitigate those risks.

Annex 6: Table 3. Stakeholder Analysis.

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
National Level					
Ministry of Energy and Water Resources	Regulates legal norms in the field of fuel power production, natural resources, including renewable energy sources in the industry, technical and technological field, construction industry, in the food and food processing industry. * Coordination, management and supervisory over relevant state services, State energy sector control service, and other organizations and enterprises under the Ministry	<p>The Government of RT undertook several actions toward electricity power sector improvement. In 2011, the Government issued Decree No. 431, “On the Individual Restructuring Plan of the OJSHC Barqi Tojik. This document emphasizes the government’s commitment to reform and tasks ministries and agencies to take action.</p> <p>In 2018 the Government adopted Resolution No. 234, which provides for the creation of two new legal entities (OJSC Transmitting Electrical Grids and OJSC Distribution Electric Grids) on the basis of existing legal entities comprising Barqi Tojik.</p> <p>In 2017, the Government of the Republic of Tajikistan adopted a new tariff policy, which provides for full cost recovery and tariffs based on the cost of services.</p> <p>The above normative acts aimed to improve quality of electricity supply in the country. However, Tajikistan will need international donors financial support and expertise to implement the projected measures.</p>	Implementation of the Government’s Power Sector Financial Recovery Program (2017-2024) in the parts of BT Financial Recovery (2019-2024).	moderate	Technical and financial support of international donors in implementation of the Government’s Power Sector Financial Recovery Program (2017-2024)
OJSHC “Barqi Tojik”	* Production transportation, transmission, distribution and sale of electrical and heat power energy mainly on the local market of the country; * Deals with issues of country’s power stations and grids operation;	The current tariff does not cover BT costs. Old infrastructure and inefficient billing and collection system - BT infrastructure needs to be renovated over time and this requires solid funding. Besides Barqi Tojik has to produce energy based on international standards, all equipment and spare parts are being bought abroad in foreign currency. Collection rate for supplied electricity is low, in particular	Financial recovery of BT, rehabilitation of local infrastructure, BT staff members capacity building, improvement of the service quality.	substantial	IFI support in establishment of transparent effective sector management (involving foreign experts), installing automated billing and collection system, staff capacity building. Reduction of external interference in

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
	<p>* BT is the major shareholder of the joint-stock companies in the energy sector, has the right to own, use and disposal of property of the enterprises and entities under its management;</p> <p>* Includes 26 joint-stock energy objects, Employs over 12,000 persons</p>	<p>from budget organizations/social institutions. There are cases of illegal connections to the system, energy losses. Lack of motivation among BT staff members due to low salaries. Another sensitive problem is personnel policy – outside interference and as a result inefficient management. Corruption on the ground is also affects the sector.</p>	<p>Introduction of effective billing and collection system, and effective transparent internal personnel policy.</p>		<p>personnel policy, motivation of employees to work effectively.</p>
WB	<p>The PfoR instrument will support the Government’s Power Sector Financial Recovery Program (2017 to 2024) in the part of BT Financial Recovery for the period of 2019-2024.</p>	<p>Lack of government transparency and accountability, weak civil society and economics, complicated political situation in neighbor countries -unstable region.</p> <p>BT financial insolvency and debts, lack of experience in implementation of the programs like this. Low willingness to pay for the increased tariff by different categories of consumers.</p>	<p>The Program supports achieving financial sustainability in the power sector and strengthen sector governance, which would help to improve the environment for private investment. The reliable power supply would promote the country economic development</p>	Substantial.	<p>Engaging community in preparing, implementing and monitoring government programs. BT capacity building. Transparent and effective management in BT. Effective and targeted use of funds</p>
International Financial Institutions/ donors	<p>Donors coordinates their activities through the Working Group of the Development Coordination Council (DCC), that includes representatives of World Bank, Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), United State</p>	<p>The risks and concerns are the same described above for WB.</p>	<p>Financial recovery of the country power sector at joint donor efforts. The Program complements: 1) Sector Development Program of ADB- US\$90 million operation for BT restructuring</p>	Substantial	<p>Effective collaboration and communication flow between the donors</p>

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
	Agency for International Development (USAID), KfW, Japan International Cooperation Agency (JICA), and European Union (EU).		and improvement of governance 2) The draft of the IMF's Policy Document on 3-Year US\$220 million Arrangement under Enhanced Credit Facility, which is under negotiations and focuses on fiscal sustainability, SOE reform, and banking sector stability; 3) The Regulatory TA Project of EBRD that would help to operationalize new tariff methodology, establish the regulatory entity for the power sector, and strengthen its capacity.		
Anti-Monopoly Service under the Government of Tajikistan	Responsible for review and pre-approval of tariffs for all-natural monopolies, including electricity tariffs. New tariffs are being approved by the Government Decree. The Anti-monopoly Agency gives its conclusion only on compliance of the new tariffs with the relevant legislation.	The new tariffs should be economically and socially justified. Basic services like water, solid waste, electricity, heating and gas are considered 'natural monopolies' and are provided exclusively by the government and are regulated by the dedicated agency. The Procedure is in place, but there is no common practice of conducting Public Hearings on tariffs with community.	Increased efficiency of power sector, improvement of the service quality. Socially and economically sound tariffs.	Moderate	Anti-monopoly Agency cannot serve as an independent regulator. In practice it doesn't promote consumers interests.

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
	There is a Procedure for <u> Holding Public Hearings on Draft Tariffs for Commodities, Labor and Services of Natural Monopoly Entities </u> that was promulgated by the Ministry of Justice of the Republic of Tajikistan on April 18, 2014. It was developed with the technical assistance of USAID’s Local Governance Project in 2013. According to the Procedure, ‘public hearings’ are required for the acquisition of commodities, labor or services as a means of ‘securing transparency.’				
Provincial					
1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
Regional electricity networks	Responsible for power distribution nationwide	Old infrastructure that requires big investments, energy losses, lack of specialists due to low salaries.	Infrastructure renovation, decrease of energy losses, effective billing and collection system	Substantial	clear guidance and instruction by PIU, personnel capacity building
District					
District electricity companies	Responsible for power distribution, billing and collection within designated area	Infrastructure that request renovation, low payment collection from all categories of users. Low motivation of the company employees to work hard and ensure proper collection of payments. Much depends on effective management - in the Kulob zone, the collection of payments for electricity was 21% in 2018. After recruiting new managers and	Infrastructure renovation, decrease of energy losses, effective billing and collection system, staff capacity building and motivation	Substantial	clear guidance and instruction by PIU, the staff capacity building, automated billing and collection system of power consumption

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
		<p>specialists, within 5 months, the collection of payments reached 77%. This is a record number for this region.</p> <p>As representatives of the service provider, the company employees understand the need in tariff increase, but as the consumers they don't support further fee raising.</p> <p>Further tariff raising may lead to illegal use of energy increase.</p>	(salary increase)		
Hydro power plants (HPPs) and Thermal power plants (TPPs)	Power generation	<p>Low water level affects the power generation process. High cost of the plant's maintenance.</p> <p>Limited opportunities for electricity exports; expensive heavy fuel oil (HFO)</p>	Rehabilitation of the plants	Moderate	Effective management system and personnel policy.
Industries	Production of cement, vegetable oil, food processing, cotton processing.	<p>Equipment failures at power supply outages. The power tariff increase will lead to the cost of production increase simultaneously. Along with the increase of the VAT from 5% to 18%, this may adversely affect the business environment.</p> <p>However, big and medium enterprises are closing mainly due to unhealthy competition, tax burden and endless inspections, not due to electricity tariffs raising as different surveys show.</p>	<p>Reliable power supply, transparent billing and collection system.</p> <p>Not willing to pay more as the business environment is already difficult. The problem of the energy sector is in ineffective management system.</p>	Substantial	<p>Transparent comprehensive BT public outreach strategy.</p> <p>Introduction of energy saving techniques.</p> <p>Government support.</p>
Small and medium enterprises (SMEs), greenhouses, petty shops, commercial establishments	Bakeries, cafes, canteens, small production and sale of food and non-food products, office services (copying, scanning of documents, printing and translation of documentation, preparation of necessary documents). Repair of computer equipment, phones,	<p>The lack of reliable electricity force commercial consumers, to look for alternatives, like expensive diesel generators and solar batteries. Unreliable electricity supply leads to production and equipment damage and result in income loss. Small shops that use electric scales cannot sale the products due to long absence of electricity if they don't have diesel generator. The products deteriorate if the refrigerator does not work for a long time.</p>	<p>Increase in quality of the power supply with no voltage fluctuations.</p> <p>Not willing to pay more. Usually, if a country is rich in any resource (oil, gas), the cost of its use is very low for</p>	Substantial	<p>Transparent comprehensive BT public outreach strategy.</p> <p>Introduction of energy saving techniques with government and international donors support .</p>

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
	watches. Legal services, translation agencies and other services.	The tariff raise will increase rental costs for those entrepreneurs renting space for their business. The products and services costs will also go up. This will result in loss of clients. Last tariff increases already resulted in closing small bakeries that had to pay over 5000 somoni for power supply monthly.	the country inhabitants. Since Tajikistan is rich in water resources (it is among 20 leading countries) the electricity should be cheap and affordable for the population. People expect that the electricity fee should be decreased, or at least should not be increased anymore as the Rogun HPP started its operation.		
Social institutions	Provision of social services to population	Lack of budget to cover electricity demands of the institutions. Wasteful use of electricity – actual use exceeds the planned one. Lack of alternative less expensive energy sources, in particular in urban areas. In rural areas the institutions use coal, wood in winter period to save electricity, which is not safe for children health.	Improvement of power service quality, its financial accessibility. Increase of the power supply effectiveness and decrease of the tariff as Tajikistan possesses great potential for energy production so it should be accessible for internal consumers.	Substantial	Introduction of energy saving techniques at budget organizations.
Households					
1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
Urban mid and high-	Consumers pay for electricity by meter	There is no limit to the light, but there are voltage drops and	People expect that the tariff	Overall risk rating is high	A dis-aggregated analysis of the

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
income users /households	In case of debts, the service provider disconnects the HHS from electricity supply. From November 1 2018, people pay 19.37 dirams per each kWh.	accidents, in particular in winter period. The tariff is increased, but quality of the service is not changed. People consider that current tariff is already too high. They don't trust controllers and electricity meters. There should be a unified payment system and meters should be checked periodically for reliability. In some areas of Dushanbe there were no problems with the electricity two last years, but the residents don't want to pay more for the service.	will decrease - as a first aggregate of Rogun HPP is commissioned and CA power network to be restored. Some people are aware that the tariff for electricity in Tajikistan is considered to be low, however population solvency is also the lowest. The tariffs for population should be decreased for 25% and for industry for 35%. There should be unified register of social bonuses created.	as success of the project directly depends on the population willingness to pay	current status of the electricity poverty needs to be undertaken and further scenarios (corresponding to different tariff increases) are to be developed. Subsequently, mitigatory measures are to be drawn to contain electricity poverty.
Urban low-income users	Same as above	Concerns are the same as above. Current government' support at 100 somoni in three months does not cover electricity expenses of households in need. There were cases, when in winter, people installed a stove for heating and cooking on their balcony due to electricity outage or its cut for non-payment.	Same as above. The subsidies from state budget should be increased to cover real costs of electricity – at least 150-200 somoni per month	Substantial as the project depends on their willingness and capacity to pay	Increased financial support from the national budget to cover electricity fee
Urban Female headed households (FHH)	HHS that are headed by widows or women whose husbands are labor migrants. Single mothers receive compensation from Government of	Concerns are the same as already described above. The HHS try to save electricity, use gas in cylinders for cooking, for instance.	The same as above. Reliable and acceptable power supply. Decreased power and other utilities	Substantial	Set benefits for women headed households – set basic limit for power consumption

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
	<p>about \$ 10 per child per month. The tariff increase will affect those FHHs that don't have permanent income.</p> <p>Many women are self-employed to support their families (sewing, selling, handicrafts)</p>		services tariffs.		
Urban elderly \disable HHS	<p>In Tajikistan, children traditionally take care of their parents, and pay for utilities, but there are cases when the pension is the only permanent income of the households.</p> <p>According to the Resolution of the Cabinet of Ministers of RT dated October 2, 1992 for No. 368 and changes to this Resolution No. 491 from 10.11.2003, for families that have disabled members of I-II group and disabled children till 16 years, benefits of payment for premises, utilities, except for payment for the electric power, natural gas and phone, are established in the amount of fifty percent.</p>	<p>The concerns are the same as mentioned above- not reliable and expensive electricity. People assume that BT sales electricity to Afghanistan, as lately the power is being disconnected at nights.</p> <p>Elderlies and disable people don't have any benefits in payment of the electricity fee although their pension compensation is very small.</p>	<p>Decrease of the electricity tariff</p> <p>Establish benefits for pensioners and HHs with disable members. Establish basic consumption limit and differentiate tariffs</p>	Substantial	benefits for pensioners and HHs with disable members
Urban HHs depending on remittances	HHs that don't have permanent income.	The concerns are the same as stated above. Paying for services after receiving money. Trying to economically use the electricity.	Decrease of the power supply tariff	Substantial	Same as above
Rural mid- and high- income users	Consumers pay for electricity by meter. In case of debts, the service provider	There were no problems with electricity supply in winter period in 2018\2019. However, electricity outage started in	All categories of users expect that power supply	Substantial as users are not willing to pay more.	Transparent public outreach strategy

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
	disconnects electricity	<p>March. According to residents of jamoats of Kulob, and Panj, Farhor, Hamadoni districts, for the last two weeks, power is available only at 8am-10 am in the morning and at 6pm-8pm at evenings. People assume that this is due to the very low water level in the Nurek HPP reservoir. The situation will change with the onset of rain, under which the snow melts faster and the reservoir will be filled with water.</p> <p>Users that live in multiapartment houses spend more money for electricity in winter period as they use it for heating. Those, who live in private houses, spend less money for electricity in winter period as they use coal for heating to pay less for the light. HHs with high income use diesel generators during power outage.</p>	quality will be improved and the tariff will be decreased as first aggregate of Rogun is commissioned .		
Rural low-income users	Usually mahalla committee leaders determine a list of low-income HHs and submit the list to a certain district administration for inclusion into the list of vulnerable groups for receiving compensation in the amount of 100 somoni per three months.	<p>The concerns are the same.</p> <p>If the low-income HH is disconnected from power supply due to debt, they use coal and wood for heating and domestic needs. They cover the debts to restore connection to the service by borrowing money from neighbors, relatives or when their relatives-labor migrants send money from Russia.</p> <p>All consumers are not ready to pay more as the current tariff is already high and it is a burden to low-income users.</p> <p>In case of the tariff raise, people will turn to alternative sources of energy.</p> <p>Low-income users receive 100 somoni each 3 months as financial support from Government. This money doesn't make any difference. People expect that the power fee increase will bring to increase of the rest utility services, like water supply, heating, as well as taxes and cost of food and other products. As a</p>	Decreased power supply tariff. Increase of the compensation amount from 100 somoni per three months to 200 somoni per each month.	Substantial	To undertake mitigation measures for protecting all categories of consumers rights, in particular those in need.

1. Group/ Subgroup	2. Current Status	3. Concerns and issues raised	4. Expectations from the project	5. Significance of Risks	6. Enabling Conditions required
		result, overall living standard of population in the country will go down.			
Rural FHHs	Same as for the Urban FHHs. Many women are also self-employed to support their families (sewing, selling, handicrafts, plus agriculture business -farming)	Concerns are the same.	Decreasing power tariffs, benefits for single mothers	Substantial	Set benefits for women headed households – set basic limit for power consumption. Government support in kind of grants for women to establish their business.
Rural elderly/disable HHs	Same as for Urban elderly/disable HHs	Same as already mentioned for urban elderly\disable HHs	Same as for urban elderly\disable HHs	Substantial	benefits for pensioners and HHs with disable members
Rural HHs depending on remittances	HHs that don't have permanent income.	The concerns are the same. Unlike the urban HHs depending on remittances have an opportunity for farming.	The same expectations – reliable power service, decreased tariffs.	Substantial	Mitigation measures, governmental support in kind of grants for agriculture business development.

Institutional Analysis

No	Level	Sub group/agency	Current Role	Change/ Adjustments suggested	Rationale
1.	National	Ministry of Energy and Water Resources (MEWR)	Regulatory, coordinating and monitoring role	The MEWR will be responsible for M&E under the Program. Its financial and economic department will conduct the required M&E function. MEWR will be responsible for adoption and implementation of the cost-recovery tariff methodology and restructuring of BT debts to MOF. The MEWR's Financial-Economic, Accounting, Technical, and Internal Audit departments will be involved in the Program implementation. MEWR will also be responsible for overall oversight of the Program implementation.	The Ministry of Energy and Water Resources is the main central government authority that formulates and carries out the public policy and fulfills regulatory functions in the area of fuel, energy and water resources.
2.		OJSHC "Barqi Tojik"	Since 1991 Barqi Tojik is the state-owned energy company that is responsible for production, transportation, transmission, distribution and sale of electricity and	BT will be the Project Implementation Unit for the Program. It will be responsible for: 1) timely implementation of critical rehabilitation and upgrade works at electricity distribution networks; 2) expansion of billing and metering system to cover all service areas to	BT possesses a status of "Qualified procuring entity" and included to the roster of procuring entities. It has specialized unit for procurement and staff certified as public procurement specialist.

No	Level	Sub group/agency	Current Role	Change/ Adjustments suggested	Rationale
			heat, including operation of power plants and networks of the country. The BT structure includes 60 804 km length of wires, 18 617 transformers, 26 enterprises and over 12 000 employees. Since 2012, at ADB financial support the Barqi Tajik has been restructured into three business units (production, distribution and transmission) Currently there are 3 separate departments at BT Power Generation, Transmission and Distribution headed by Deputy Chairs.	increase collection rates for billed electricity; 3) reduction of electricity losses.	According to the Tajikistan Public Procurement Law (PPL) the status allows BT to independently conduct its own procurement as well as act as a centralized purchasing body for its regional offices and substructures. BT has experience in procurement of goods, non-consulting services, construction/rehabilitation works and consulting services (e.g. design). BT has designated project implementation groups that have gained experience in implementation of complex IFI funded projects (e.g. Nurek, CASA-1000).
2	Provincial	Regional electricity networks	Responsible for power distribution, billing and collection within designated area	Implementation of the Program in the field under PIU supervision	
3	District	Energy divisions			

Impact Assessments and Risk Management

List the role and responsibilities of different (key) actors at different levels. Please note impacts, as of now, are 'potential'.

No	Level	Positive Impacts	Negative Impacts	Risk	Mitigatory Measures
1.	National	Financial recovery of the main electricity supplier -OJSHC Barqi Tojik, including strengthening of the power sector transparency, and, as a result improvement of electricity supply reliability. This theoretically, should promote economic development of the country and improve the population livelihood.	None	Timely implementation of the proposed activities may be at risk– subject to political stability in the country, available legislation, MEWR and BT staff capacity and adequacy of financial resources.	WB team will conduct assessment of the existing financial and program managements systems at MEWR and BT, including reporting and controlling, and safeguard measures to ensure timely and appropriate use of the Program funds.
2.	Sub national level\BT infrastructure	The prioritized rehabilitation and upgrade interventions at regional power distribution networks. Reliable electricity supply to the population. Reduced corruption and increased collection rate for the supplied power.	none	There is low motivation and sometimes capacity for the utility staff to perform effectively	BT should build the capacity of its regional staff for timely and effective implementation of the Program on the ground

3.	Subnational - Social institutions	Reliable electricity supply will promote introducing modern teaching methodology with use of modern technology	n\	There is a risk that the social institutions debt to BT will increase due to lack of budget to cover electricity demands of the institutions	Introduction of energy saving techniques at Government and international donors support.
4.	District level\Industry and small business	Reliable electricity will reduce cases of equipment and production damage due to electricity outage and voltage fluctuation. There will be no need for expensive diesel generators.	Tariff increase may lead to the products and goods cost increase.	Small business, such as bakeries may close due to unprofitability.	According to the <i>Concept of Tariff Regulation in the Electricity Industry of the Republic of Tajikistan</i> (May 27, 2017, No. 259) the Government will consider the possibility of developing a mechanism for providing legal entities (in particular in the agricultural sector) grants, loans and other benefits.
5.	Sub national level\Households	The Program is expected to have overall positive social impact. Household equipment will function sufficiently and will not be damaged due to voltage fluctuations, children would be able to do their homework at adequate light. Women and girls would have more time for self-development – time they spend for cooking on fire and collecting firewood in rural areas. Cooking using electricity is safer than cooking on gas in cylinders that is common practice in urban areas. Teaching methodology, in particular at rural schools can be improved by using computer equipment.	The increase in tariffs will remarkably impact the low-income households -in-particular female headed households and households with disable member/s with no stable income. The payment for electricity for them already exceeds 10%. The latest tariff increase is already burden for these HHs, they prefer to use coal and wood for domestic purposes. The electricity tariff increase will be followed by increase of the rest utility services tariffs (water, heating, housing) and as a result	There is a risk that the tariff will increase volume of losses due to unauthorized use of energy and corruption on the ground. Percent of population that won't be able to pay the service fee will increase. People will prefer to use alternative sources of energy (solar high-income users; and low-income users will continue using coal and wood.	<p>The <i>Concept of Tariff Regulation in the Electricity Industry of the Republic of Tajikistan</i> (May 27, 2017, No. 259) provides for issues of access to electricity for vulnerable groups of population, for their social protection through the adoption of necessary financial measures (subsidies from state budget), as well as the establishment of differentiated tariffs.</p> <p>The process of tariffs regulation should be transparent and coherent for population.</p> <p>The Government of the Republic of Tajikistan will consider the possibility of developing a mechanism for providing individuals (in particular, low-income and vulnerable consumers) grants, loans and other benefits.</p>

			products prices will go up.		
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Annex 7. Consumers' Complaint Handling at BT

The World Bank Member met with Safarova Dilbar, Head of General and Control Department and Gulru Murodova, Chief Inspector of Citizen Reception Unit/division under the General and Control Department on March 5, 2019 at Barqi Tojik office.

The purpose of the meeting was to discuss Barqi Tojik' GRM

The following questions were discussed: how people address BT, who receives and registers the citizens appeals, process and terms of the appeals consideration.

Discussions revealed the following:

1. **Citizens Reception Unit/Division operates under General and Control Department within Main Department of Finance and Administrative Services.** Ms. Gulru Murodova, Chief Inspector, the only specialist of the Citizen Reception Unit, keeps track of all appeals from consumers (written\oral\received via website) in the separate Notebooks of statistical accounting of appeals of individuals and legal entities, and makes sure the customers' requests are addressed properly and in timely manner.
2. The Unit keeps records in accordance with *Decree of the Government of the Republic of Tajikistan dated July 28, 2017, No. 358 "On the Model Instructions for Records Management in Government Agencies, Institutions, Enterprises and Other Organizations of the Republic of Tajikistan"*.
3. **In 2018, Citizen Reception Unit in Dushanbe, registered 238 written appeals; 131 verbal and 49 electronic appeals from customers,** not only from Dushanbe, but other areas designated to BT. The **telephone appeals** are not being registered, because most of them are regarding reasons of temporary outage of electricity, and the reasons are reported at once.
4. **The hot lines and specialists on duty** operated in all Barki Tojik entities until 2017. There were complaints that the lines were not working well because they were busy all the time due to high demand in winter period.
5. **Time for consideration of citizens appeals varies depending on the issue.** Some issues can be addressed at once, others take average 10 days. Citizens receive answers in written on BT letterhead with the outgoing number.
6. **Each Saturday from 8:00 to 12:00 is a day for citizens reception in Dushanbe and all regional and district BT divisions.** This day all leadership and specialists of the company receive consumers.
7. **Regional/district BT divisions/units don't have a separate Citizen Reception Unit,** but Secretary receptionist receives and registers complaints of citizens.
8. **There is an Order on reception of citizens by the BT leadership approved on May 29, 2017** that determined the following schedule of citizens' personal reception by the company management:

#	Officials	Day	Time of citizens reception
1.	Chair and Deputy Chairs	Saturday	from 9:00 to 12:00
2.	First Deputy Chair (Mr. Asozoda M.Sh.) - Executive Director of Power Generation (HPP and TPP)	Monday and Friday	from 14:00 to 16:00
3.	Deputy Chair (Mr. Ubaidullozoda Gh.Kh.) Executive Director of the "Power Transmission Networks"	Tuesday	from 14:00 to 16:00
4.	Deputy Chair (Ms. Kholikzoda) – Executive Director of "Power Distribution Networks" Department	Wednesday	from 14:00 to 16:00
5.	Head of Main Department of Finance and Administrative Services	Thursday	from 14:00 to 16:00

The Order also prescribes the procedure of the citizens appeals consideration and assigns specialists responsible for the process based on the existing legislation and the company internal policy.

Annex 8. Environmental Impact Assessment Procedure Flow Chart

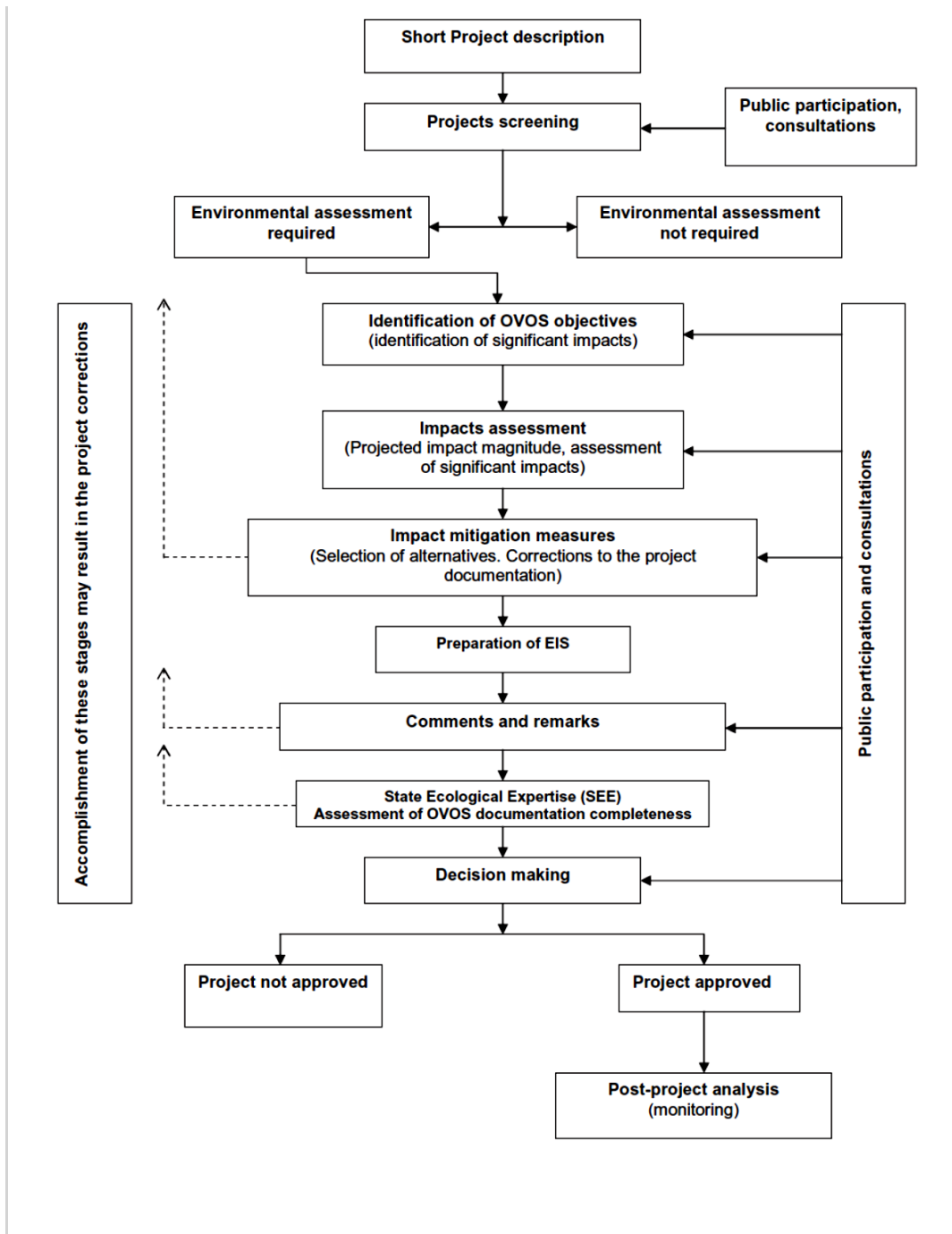


Fig. General scheme of Environmental Impact Assessment (OVOS) procedure (by UNECE, 2015)

Annex 9: References

1. Постановление Правительства Республики Таджикистан «О мерах по созданию системы безопасного сбора, хранения, транспортировки и переработки ртутьсодержащих ламп». Decree of the Government of the Republic of Tajikistan “On measures to create a system for the safe collection, storage, transportation and processing of mercury-containing lamps”
2. Правила сбора отработанных ртутьсодержащих ламп у населения, юридических лиц, индивидуальных предпринимателей, организация их хранения, транспортировки, утилизации. Rules for the collection of waste mercury-containing lamps from the public, legal entities, individual entrepreneurs, the organization of their storage, transportation, disposal
3. Предельное количество токсичных промышленных отходов, допускаемое для складирования в накопителях (на полигонах) твёрдых бытовых отходов (нормативный документ). The maximum amount of toxic industrial waste allowed for storage in solid state waste in storage devices (landfills) (regulatory document)
4. Правила предоставления услуг по вывозу твердых и жидких бытовых отходов. Rules for the provision of services for the removal of solid and liquid household waste
5. Правила предоставления коммунальных услуг. Rules for the provision of utilities
6. Постановление Правительства Республики Таджикистан «О Порядке выявления и учета бесхозных отходов. Decree of the Government of the Republic of Tajikistan “On the Procedure for Identification and Accounting of Waste Waste
7. Порядок выдачи разрешений на захоронение (складирование) промышленных, бытовых и иных отходов (за исключением радиоактивных отходов). Procedure for issuing permits for the burial (storage) of industrial, household and other waste (except for radioactive waste)
8. Постановление Правительства Республики Таджикистан «Об утверждении Порядка, условий и способов сбора, использования, обеззараживания, транспортировки, хранения и захоронения производственных и бытовых отходов в Республике Таджикистан». Decree of the Government of the Republic of Tajikistan “On approval of the Procedure, conditions and methods for the collection, use, disinfection, transportation, storage and disposal of industrial and household waste in the Republic of Tajikistan”
9. Порядок, условия и способы сбора, использования, обеззараживания, транспортировки, хранения и захоронения производственных и бытовых отходов в Республике Таджикистан. The procedure, conditions and methods for the collection, use, decontamination, transportation, storage and disposal of industrial and household waste in the Republic of Tajikistan ”
10. Пособие по проектированию полигонов по обезвреживанию и захоронению токсичных промышленных отходов (к СНиП 2.01.28. – 85). Manual on the design of landfills for the disposal and disposal of toxic industrial waste (to SNiP 2.01.28. - 85)
11. Временный классификатор токсичных промышленных отходов и методические рекомендации по определению класса токсичности промышленных отходов СанПиН 4286 – 87. Temporary classifier of toxic industrial wastes and guidelines for determining the toxicity class of industrial wastes SanPiN 4286 - 87
12. СНиП 2.01.28–85. Полигоны о обезвреживанию и захоронению токсичных промышленных отходов. Основные положения по проектированию. Norms and regulations SnIP 2.01.28–85. Landfills for the disposal and disposal of toxic industrial waste. Design Basics
13. Environmental Performance Reviews, UNECE Committee on Environmental Policy, New York and Geneva, 2004
14. National State of the Environmental reports, ZOI Environmental network, November 2012
15. Materials of the IEEs of the energy sectors of ADB
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