

ENABLING THE ENERGY TRANSITION  
PROGRAM-FOR-RESULTS (PforR)  
P179336

DRAFT  
ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT (ESSA) REPORT

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PREPARED BY THE WORLD BANK

The Environmental and Social Systems Assessment (ESSA) of the Enabling the Energy Transition (P179336) Program-for-Results was prepared by a Bank team composed of Alkadevi Patel (Senior Social Development Specialist), Lusine Gevorgyan (Environmental Specialist) and Sonya Msryan (Social Development Specialist).

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## Abbreviations

<b>TERM</b>	<b>EXPANDED TERM/ DEFINITION</b>
ADB	Asian Development Bank
AMD	Armenian Dram
CEPA	Comprehensive and Enhanced Partnership Agreement
DLI	Disbursement-Linked Indicator
DLR	Disbursement-Linked Result
E&S	Environmental & Social
ECA	Europe and Central Asia
ECARES	ECA Renewable Energy Scale-Up Program
ENA	Electric Networks of Armenia
EPMO	Electric Power Market Operator
EPSO	Electric Power System Operator
ESDS	Energy Sector Development Strategy
ESF	Environmental and Social Framework
ESG	Environmental, Social, and Governance
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management Systems
ESRP	Electricity Supply Reliability Project
ESSA	Environmental and Social Systems Assessment
EU	European Union
GDP	Gross Domestic Product
GoA	Government of Armenia
GRM	Grievance Redress Mechanism
HVDC	High-Voltage Direct Current
HVEN	High Voltage Electric Networks
IBRD	International Bank for Reconstruction and Development
IFI	International Financial Institution
IPF	Investment Project Financing
ISO	International Organization for Standardization
kV	kilovolt
M&E	Monitoring & Evaluation
MTAI	Ministry of Territorial Administration and Infrastructure
Mtoe	Million ton of oil equivalent
MVA	Megavolt-ampere
MW	Megawatt
NDC	Nationally Determined Contribution
OHL	Overhead Line
OHS	Occupational Health and Safety
PDO	Program Development Objective (for PforR)
PforR	Program-for-Results
PSRC	Public Services Regulatory Commission
RE	Renewable Energy
RoA	Republic of Armenia
SCADA	Supervisory Control and Data Acquisition
SOE	State-Owned Enterprise
TSO	Transmission System Operator
TYNDP	Ten-Year Network Development Plan
USAID	United States Agency for International Development
USD	United States Dollar

## EXECUTIVE SUMMARY

**Guiding Principles.** The Environmental and Social Systems Assessment (ESSA) was undertaken by the World Bank as part of the preparation of the Program for Results (PforR) for enabling the energy transition in Armenia. It is guided by the key policy elements as established by the Bank Policy PforR Financing and as they apply to the assessment of the Government of Armenia (GoA) systems and the relevant agencies' capacity to plan and implement effective measures for managing environmental and social (E&S) effects. Paragraph 9 of the Policy describes the core principles of environmental and social management that may be considered relevant or applicable in the ESSA. It focuses on the adequacy of the relevant systems, including implementation and the GoA's capacity to enforce. The system review is approached in two parts: (i) Identification of relevant policy, legal, regulatory, and institutional frameworks systems that are pertinent to the ESSA; and (ii) Analysis of the implementation of the systems, including capacity and enforcement of certain environmental and social measures. The ESSA was informed by desk review, consultations with the stakeholders and previous experience of working with High Voltage Electric Networks (HVEN), the main implementing agency, on similar investments.

**Geographic Scope.** The support to policy, plan, and regulatory decisions including tariff reform will have nationwide scope. The Program also supports substation rehabilitation: Substations Shahumyan-2, Marash, and Zovuni are located in Yerevan, Ararat-2 in Ararat region, Charentsavan-3- Kotayk region, and the Yeghegnadzor substation is in Vayots Dzor region.

**Screening.** Screening was undertaken in two steps as guided by the "Bank Guidance on PforR Environmental and Social Systems Assessment". Firstly, the proposed activities were screened against the exclusion criteria to eliminate activities not eligible for PforR financing. Secondly, a preliminary risk screening process was undertaken to identify potential E&S risks, as well as opportunities, that may be associated with and/or leveraged through the PforR.

**Risks and Impacts.** The environmental risk is classified as moderate, and the social risk is classified as low. The overall E&S risk is moderate. The risks mainly relate to rehabilitation of substations with expenditures covering:

- Full rehabilitation of the following substations Shahumyan-2, Marash, and Yeghegnadzor substations.
- ongoing rehabilitation of Zovuni, Ararat-2, Charentsavan-3 substations which were started through the Banks IPF Projects but are not yet completed. These substations have measures in place to manage E&S risks including Environmental and Social Management Plans (ESMPs).

The Program supports results achievement, and the associated expenditures for some of the achievements being counted as "prior results". This applies to the Agarak-2, Lichk and Shinuhayr substations which were initiated with self-financing or other IFI financing.

**Environmental.** Most of the environmental risks associated with the PforR are related to waste management. The rehabilitation of substations is anticipated to generate a considerable amount of hazardous waste, such as used oil, old batteries, lubricants, replaced transformers, which presents a challenge for its final disposal. The country currently lacks the capacity and systems for recycling, neutralizing, and safely disposing of hazardous waste and it does not have specialized landfills for the final disposal. To comply with the legal requirements, HVEN must undergo state registration and "passportization" processes of hazardous waste, and obtain the necessary permits. The rehabilitation of some substations may also involve the safe handling and disposal of asbestos-containing roofing, a legacy of Soviet construction practices. The proper disposal of non-hazardous construction waste also poses a challenge due to the nationwide shortage of sanitary landfills that compile with modern standards. In addition, the physical activities carry the risk of accidental spillage of toxic liquid from

transformers. While containment measures are in place at substation sites, they may not fully eliminate the possibility of environmental contamination.

**Social.** Potential social risks associated with the rehabilitation of substations relate to labour rights and working conditions and worker and public health and safety. Interruptions to services may also occur from electricity supply to end users, which however, is well managed in similar rehabilitation works. The works are not expected to have land acquisition related impacts as the works will take place on the existing footprint on HVEN land. Support is planned for tariff structure reform which have the potential to increase tariffs. Socially disadvantaged groups already benefit from reduced tariffs, but any increase could further disproportionately impact them or push other households into this category.

**Exclusions and Operational Polices (OPs).** The Program excludes any activity that poses a potentially significant environmental and social risk and has diverse, varied, irreversible and unprecedented negative impacts. Neither OP 7.50 on International Waterways nor OP 7.60 on Disputed Areas is applicable.

**Implementation Arrangements.** The Ministry of Territorial Administration and Infrastructure (MTAI) will be responsible for overall Program coordination and, together with the Public Services Regulatory Commission (PSRC), will be responsible for some of the policy and regulatory decisions included in the DLIs (e.g., tariff structure reform, SOE governance reform).

HVEN will be the main implementation agency. Other implementing agencies include the Public Services Regulatory Commission (PSRC) and Electric Power System Operator (EPSO). These agencies will not incur substantial incremental expenditures for the implementation of the PforR, but they will play a key role in taking several actions under the DLIs. Accordingly, for the ESSA only the E&S systems of HVEN's were assessed as only HVEN implemented activities involve expenditure or physical activities. While the systems of EPSO and PSRC are not assessed, in relation to tariff reform a review has been done of the safety nets in place for disadvantaged groups including the grievance system. The implementation agencies will provide progress reports for monitoring and oversight of the PforR to the MTAI and the Ministry of Finance, which will be the responsible signatory for the overall PforR from the government side.

**Scope of the Assessment.** The assessment was undertaken as follows:

- The system as it relates to rehabilitation of substations through HVEN and the strengthening in HVEN's corporate management system and corporate governance in relation to the following DLIs:
  - DLI 1: Increase in the percentage of transmission substation capacity equipped with automated control and digital protection systems.
  - DLI 2: Increase in the total capacity of transmission substations.
  - DLI 3: Improvements in power system planning, operation, and regulation.
  - DLI 6: Progress toward the modernization of HVEN's corporate management systems.
  - DLI 7: Progress toward the modernization of HVEN's corporate governance.
- Assessment of communication and awareness raising of the changes connected to DLI 4 on the progress towards electricity market liberalization.
- Assessment of safety nets in place in case of increases to tariffs as a result of changes to tariff methodology and resultant change in tariffs as determined under DLI 3 and also from DLI 5 increased mobilization of commercial capital for electricity transmission network infrastructure.
- **Assessment of the National System.** The review of the national legal and regulatory system to assess and manage E&S risks and impacts of infrastructure investments to be supported by the Program concluded Armenian legislation and implementation practices are broadly aligned with good international practice on

environmental and social sustainability; however, legislation, policy, and institutional systems still need to be strengthened in a number of important areas, namely:

- o The Law on Environmental Impact Assessment and Expertise (EIAE), with recent revisions in force since June 2023, is generally in line with international good practice with respect to environmental aspects however on social issues, the EIAE law does not comprehensively cover the identification and management of social risks and impacts. For projects not requiring EIA, the law lacks specific environmental and social risk assessment tools in environmental due diligence. On social issues, the EIAE Law does not explicitly require the identification or management of impacts on disadvantaged and vulnerable groups. Nor does it cover access to benefits.
- o The waste management laws aim to regulate waste, including hazardous waste disposal, establish ownership and the system of payment for its disposal. Promoting circular economy is stated as national objective with definition of waste separation, recovery, recycling, and reuse. However, its focus is primarily on waste collection and disposal, lacking clear provisions for circularity. Institutional capability to supervise and control the storage and management of hazardous waste is limited along with an absence of designated landfills for disposal.
- o Armenia has in place a comprehensive Labor Code (2004), which also includes occupational health and safety (OHS) requirements aligned with international good practices. However, enforcement of the Labor Code has been lagging, mainly due to the capacity of the Health and Labor Inspection Body (HLIB) to enforce the laws, as well as the number and pace of legislative changes in the past decade. Labor legislation also does not provide grievance mechanisms at the employer level for the workers to directly raise any workplace concerns and solve individual labor disputes.
- o National legislative framework guarantees the right to receive information and get familiar with documents relating to the activities of state and local self-government bodies and officials. The legal acts that ensure public participation and right to access information include the Law on Freedom of Information (2003), the EIAE Law, and the Law on Urban Development (1998).

**Assessment of HVEN's ESMS.** The assessment identified that whilst they have processes and procedures in place for assessing and management OHS risks and impacts, they assess and manage other E&S risks and impacts either when mandated under the national system, or when funded by IFIs in line with the lender requirements.

**Environmental and Social Actions.** The ESSA aims to identify the strengths and weaknesses of the E&S systems, applicable to the Program, to identify the actions necessary to improve its performance. To manage the potential low to moderate risks and impacts from the physical infrastructure investments, HVEN will undertake screening to identify the nature and scale of the impacts and risks and put in management measures, prior to the start of works, to address them including project and worker grievance procedures and a training plan of key staff. As part of the Program design, DLIs 6 and 7 focus on progress toward the modernization of HVEN's corporate management systems and corporate governance. Recommendations have been put forward for stepwise improvement of HVEN's ESMS following a systems assessment undertaken with HVEN of how they assess and manage risks and impacts of activities across all their operations. This will further support the achievement of DLI 6 for HVEN to obtain certification for compliance with ISO 14001: 2015 Environmental Management Systems. Potential social effects of activities to support tariff reforms as part DLI 3 and 5 were also assessed. It is expected that the tariff reforms will only produce relatively small tariff increases (below inflation levels) and social protection systems are in place for disadvantaged groups through reduced rates. Specific measures to address the identified weaknesses or gaps and to make the system in line with the PforR core principles are proposed in an ESSA Action Plan (see below) which is an integral part of the Program's Action Plan.

No	Action	Timeline
<b>Actions relating to substations to be newly rehabilitated (Marash, Shahumyan-2, and Yegheghandzor)</b>		
1	HVEN to undertake E&S screening of the activities related to the rehabilitation of sub-stations	Prior to start of works
2	HVEN to develop site-specific ESMPs in line with risks identified during the screening, disclose and consult on, thereafter adopt and implement.	Develop and adopt prior to start of works and thereafter implement throughout Program implementation
3	HVEN to establish workers grievance mechanism covering direct and contracted workers.	Develop and adopt prior to start of works and thereafter implement throughout Program implementation
4	HVEN to develop a training plan on worker and community health and safety, including on safe handling of hazardous waste, and ensure training of all direct and contracted workers.	Develop and adopt prior to start of works and thereafter implement throughout Program implementation
5	HVEN to ensure public grievance mechanism is in place, is communicated and operationalised.	Prior to start of works and thereafter implement throughout Program implementation
<b>Actions relating to substations for which rehabilitation started under World Bank-financed Investment Project Financing Projects (ETNIP and ESRP), but was not completed within the IPF period (Ararat-2, Charentsavan-3 and Zovuni)</b>		
6	Where rehabilitation works were paused and have yet to re-start, HVEN to update the ESMP and thereafter adopt and implement.	Update and adopt ESMP and thereafter implement throughout Program implementation
7	Where rehabilitation works are ongoing, HVEN to continue to implement ESMPs without changes.	Implement ESMPs for substations throughout Program implementation
<b>Actions relating to substations where rehabilitation works were initiated with self-financing or other IFI financing (Shinuhayr, Agarak-2, and Lichk)</b>		
8	HVEN to apply strengthened ESMS.	Measures and timelines as per the ESMS actions 9-20 below.
<b>Actions to strengthen HVEN Corporate ESMS and towards obtaining certification for compliance with ISO 14001: 2015 Environmental Management Systems.</b>		
9	HVEN to develop and adopt an E&S policy statement and a commitment letter from the CEO communicating the Policy to all employees.	Year 1
10	HVEN should include a definition of its wider system of Environment, Social and Governance (ESG) values, which is becoming common practice on the global corporate governance scene and is particularly important for companies that seek to raise financing from international banks and capital markets.	Year 1
11	HVEN needs to develop and adopt policies against discrimination in the workplace and sexual harassment and communicate those policies to managers, supervisors and workers adhering to zero tolerance policy toward any form (verbal or physical) of sexual harassment and discrimination.	Year 1
12	HVEN to develop and put in place procedures for identification of E&S risks and impacts across all key activities. HVEN should consult with key groups as part of their risk assessment process and document and track engagement efforts and key discussion outputs.	Year 1
13	HVEN to develop a map of key stakeholders including groups that are affected by their operations and have in place a policy and procedure for responding to stakeholders.	Year 1
14	HVEN to develop and implement an action plan for E&S plans and procedures that need to be put in place and assign	Year 2



No	Action	Timeline
	responsibilities to address and mitigate E&S risks and impacts across all key activities.	
15	HVEN to develop and implement a training plan to strengthen the capacity of the newly established department and of other key staff to put in place policies and procedures for an effective ESMS.	Year 2
16	HVEN to develop a procedure and assign staff for reporting to affected communities on key risks and action plans.	Year 1
17	For emergency preparedness and response, HVEN to conduct periodic consultations with the community to identify on-site and off-site emergency scenarios.	Year 2
18	For OHS, HVEN to ensure the same level of coverage for contracted workers including through reviewing plans and procedures and supporting training of contracted and subcontracted workers.	Year 2
19	HVEN to ensure an effective grievance mechanism for workers is put in place and operationalised or all workers.	Year 2
20	HVEN to develop a procedure for monitoring any significant E&S risks as well as most probable risks and assign staff to be in charge of monitoring those risks across its operations.	Year 3

**Disclosure and Consultation on Draft ESSA Report.** The draft ESSA report will be disclosed in English and Armenian through the external website of the Bank and the website of the World Bank’s Country Office in Armenia. The Bank will undertake consultations with stakeholders on the draft ESSA report in a series of targeted meetings. The draft ESSA report, including Executive Summary, in both English and Armenia, will be circulated prior to the meetings. Observations from the workshops will be incorporated into the final ESSA report as well as a complete list of participants and a summary of their comments.

**Grievance Redress.** Communities and individuals who believe that they are adversely affected as a result of a Bank supported PforR operation, as defined by the applicable policy and procedures, may submit complaints to the existing program grievance mechanism or the Bank’s Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address pertinent concerns. Project affected communities and individuals may submit their complaint to the Bank’s independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted at any time after concerns have been brought directly to the Bank’s attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the Bank’s Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank’s Accountability Mechanism, please visit <https://accountability.worldbank.org>.

# INTRODUCTION

Through the proposed Program-for-Results (PforR), the World Bank aims to support the Government of Armenia (GoA) in achieving its long-term strategic goals of expanding and integrating renewable energy. In particular, the proposed PforR would contribute towards achieving the targets of the GoA's Energy Sector Development Strategy (ESDS) 2040 to install 1,000 MW of solar PV capacity by 2030 and 500 MW of wind capacity by 2040, through interventions focusing on: (i) strengthening power transmission infrastructure, and (ii) improving the financial viability and performance of the power transmission company.

To improve the security and reliability of the power supply and enable the integration of RE, Armenia needs to continue investing in modernizing the power transmission network and reduce its reliance on public funding and guarantees to finance investment in power sector state-owned enterprises (SOEs). Successfully implementing the necessary investments to ensure the efficiency and reliability of the power transmission infrastructure for renewable energy integration and gradually transitioning to country systems for the implementation of these investments will require strengthened transmission SOE governance, systems, and procedures. The power transmission network is owned and operated by the state-owned High Voltage Electric Network of Armenia (HVEN). HVEN has gained substantial experience in contractors and procurement management for transmission infrastructure investments in recent years, by implementing projects financed by the World Bank and other international financial institutions. However, its procurement, audit, and budget management procedures (including with regard to environmental and social aspects) should be further strengthened. Moreover, HVEN should move forward with its efforts to modernize its grid monitoring and operation systems and improve grid expansion planning.

Furthermore, sectoral reforms that underpin the financial viability and performance of power sector SOEs are required to support the ambitious country's renewable energy transition. While electricity tariffs in Armenia cover the full current financial costs of the system, reforms are needed to allow power sector SOEs to raise commercial financing, especially in foreign currency, as the current tariff methodology is tailored to sovereign-backed borrowing by SOEs. The implementation of the electricity market liberalization roadmap, which is one of the key strategic priorities laid out by the GoA in the ESDS 2040, will further promote cost-effectiveness of service delivery through the introduction of competition as well as mandatory balancing responsibility for large suppliers and consumers. Moreover, reforms are needed to strengthen transmission network investment planning and the regulation of network operation to improve renewable energy integration. Lastly, SOE corporate governance in the power sector needs to improve to enhance accountability and operational effectiveness.

## 1.1 Objectives

The Environmental and Social Systems Assessment (ESSA) was undertaken by the World Bank as part of the preparation of the PforR for enabling the energy transition in Armenia.

The ESSA is guided by the key policy elements as established by the Bank Policy PforR Financing<sup>1</sup> and as they apply to the assessment of the GoA systems and the relevant agencies' capacity to plan and implement effective measures for managing environmental and social (E&S) effects. Paragraph 9 of the Policy describes the core principles of E&S management that may be considered as relevant or applicable in the ESSA.

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<sup>1</sup> Bank Policy for Program-for-Result Financing, Issued March 25, 2022, last revised on March 25, 2022, Issuer: Vice President, OPSVP

These core principles are as follows:

- a. promote environmental and social sustainability in the PforR Program design; avoid, minimize or mitigate adverse impacts, and promote informed decision-making relating to the PforR Program's environmental and social impacts;
  - b. avoid, minimize or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the PforR Program;
  - c. protect public and worker safety against the potential risks associated with: (i) construction and/or operations of facilities or other operational practices under the PforR Program; (ii) exposure to toxic chemicals, hazardous waste, and other dangerous materials under the PforR Program; and (iii) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards;
  - d. 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;
  - e. give due consideration to the cultural appropriateness of, and equitable access to, PforR Program benefits, giving special attention to the rights and interests of the Indigenous Peoples and to the needs or concerns of vulnerable groups;
- avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

The ESSA focuses on the adequacy of the relevant systems, including implementation and the GoA's capacity to enforce. The system review is approached in two parts:

- a. Identification of relevant policy, legal, regulatory, and institutional frameworks systems that are pertinent to the ESSA;
- b. Analysis on the implementation of the systems, including capacity and enforcement of certain environmental and social measures.

The Program excludes any activity that poses a potentially significant E&S risk and has diverse, varied, irreversible and unprecedented negative impacts.

The ESSA aims to identify the strengths and weaknesses of the E&S systems, applicable to the Program, in order to identify the actions necessary to improve its performance. Specific measures to address the identified weaknesses or gaps and to make the system in line with the PforR core principles are proposed in an ESSA Action Plan, which is an integral part of the Program's Action Plan .

## 1.2 Approach to the ESSA

Screening was undertaken in two steps as guided by the Bank Guidance on PforR Environmental and Social Systems Assessment. Firstly, the proposed activities were screened against the exclusion criteria to eliminate activities not eligible for PforR financing. Secondly, a preliminary risk screening process was undertaken to identify potential E&S risks, as well as opportunities, that may be associated with and/or leveraged through the PforR.

The context specific E&S risk screening helps identify the likely E&S impacts and includes a preliminary assessment of important contextual, institutional, capacity, or reputational risk issues facing the Program. The objective of this screening is to identify potential risks and opportunities that may be associated with the Program that warrant further analysis through undertaking the ESSA.

The criteria used to evaluate the range of associated E&S effects are as follows:

- the main benefits and adverse impacts and risk that are likely to be associated with the Program activities.
- the E&S conditions in the Program area that may have significance for Program design and implementation.
- the borrower's organizational, administrative, and regulatory structures and practices as they relate to E&S assessment, planning, and management of the Program.
- E&S issues, trends, or other factors that may cause the borrower (country), the Program, or the World Bank to be exposed to significant reputational or political risk.

Based on the screening exercise (Annex 2), the overall E&S risk was assessed as moderate and relate to the rehabilitation of the substations. Waste management poses a challenge due to insufficient regulatory and infrastructure systems, requiring specific measures for the proper handling, treatment, and final disposal of hazardous waste. Other risks relate to community and worker health and safety issues due to rehabilitation works in substations and interruptions of the electricity supply to end users during the rehabilitation activities.

On the assessment against the exclusion criteria, whilst some activities will expose workers and communities to risks of health and personal safety, these are not seen as significant risks.

The PforR will also support the adoption and updates of the ten-year network development plan. Potentially, activities in these plans will get started during the lifetime of the PforR, for any investment under these, feasibility studies would be undertaken for each investment, but not before the plans are finalized. The PforR will also support adoption of a new Electricity Law and a New Energy Efficiency Law aligned with the Comprehensive and Enhanced Partnership Agreement (CEPA) agreement. Changes in legal and regulatory framework will be done according to the national law on Normative Legal Acts, that envisages impact assessment and expertise of drafts if proposed changes may have significant impacts for private sector or public in general. In line with the Policy for PforR financing, there will be an exclusion of support to any investments that are judged to be likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people.

In addition to the screening, which informed the scope of the ESSA, the process for undertaking the ESSA included review of relevant information on the E&S systems underpinning the Program, consultation and engagement to understand the operationalization of those systems, including the infrastructure in place to support and capacity to implement them:

**Desktop review:** The review included Armenia E&S Overview Assessment (2023) between National Legislation of Armenia and the World Bank's Environmental and Social Framework (ESF); Law on Waste (2004) and legal acts and regulations pertaining to waste management; Law on Environmental Impact Assessment and Expertise (2014); the Law on Energy (2001); the Law on Public Service Regulatory Body (2003); and, several governmental decisions. To assess potential E&S impacts, the review scrutinized the Environmental and Social Impact Assessment (ESIA) reports for the Caucasus Energy Network Project (2020), as well as site-specific Environmental and Social Management Plan (ESMPs) from ongoing (Electricity Transmission Network Improvement Project (P146199)) and completed (Electricity Supply Reliability Project (P116748)) energy projects. The review also covered HVEN's EHS practices and documentations to evaluate their compliance with Good International Industry Practice Standards.

**Consultation and engagement to inform ESSA preparation:** To develop a better understanding of implementation policies, procedures, standards, and the approach relevant to the Program, the Bank team

carried out meetings with various stakeholders including representatives of Ministry of Territorial Administration and Infrastructure (MTAI), Ministry of Finance (MoF), Ministry of Environment, HVEN, Renewable Resources and Energy Efficiency (R2E2) Fund, Public Services Regulatory Commission (PSRC), Electric Power System Operator (EPSO) and Electric Power Market Operator (EPMO). Extensive consultations were carried out with HVEN technical staff to carry out assessment for HVEN's Environmental and Social Management System (ESMS). These stakeholder consultation meetings informed key ESSA findings, contributed to formulating the ESSA Program Action Plan, and informed the design of the Program.

Disclosure and consultation on draft ESSA report: The draft ESSA report will be disclosed in English and Armenian through the external website of the Bank and the website of the World Bank's Country Office in Armenia. The Bank will undertake consultations with stakeholders on the draft ESSA report in a series of targeted meetings. The draft ESSA report, including Executive Summary, in both English and Armenia, will be circulated prior to the meetings. Observations from the workshops will be incorporated into the final ESSA report and a complete list of participants and a summary of their comments will be included in Annex 3.

## 2 PROGRAM DESCRIPTION

### 2.1 Sectoral and Institutional Context of the Program

Armenia's energy system is heavily dependent on imported fuels (especially natural gas), creating significant energy security risks, compounded by the global energy crisis. In 2021, 62 percent of Armenia's total energy supply came from natural gas, followed by oil (16 percent), nuclear (14 percent), and hydro (5 percent). In contrast, the share of nontraditional renewable sources (wind and solar) is only about 1 percent<sup>2</sup>. This energy mix exposes Armenia to significant energy security risks since its natural gas, oil, and nuclear fuels are imported, mainly from Russia and Iran. The government's vision for the development of the energy sector aims at enhancing Armenia's energy security while reducing the country's greenhouse-gas emissions.

The quality of the power supply in Armenia is deteriorating and falling behind its ECA peers, indicating the urgent need to continue investing in the network and modernizing the network, including electrical substations and grid digitalization. The power transmission network is owned and operated by the state-owned HVEN. Most HVEN electrical substations have undergone or are undergoing significant rehabilitation. HVEN has gained substantial experience dealing with contractors and procurement for transmission infrastructure investments in recent years, by implementing projects financed by the World Bank and other international financial institutions.

### 2.2 Government Program

The proposed PforR supports the government program set forth in the ESDS 2040 issued by the GoA in 2021. The ESDS outlines five key priorities for energy sector development: (i) implementing power transmission infrastructure investments, (ii) promoting a gradual liberalization of the electricity market, (iii) extending the lifetime of the Armenian Nuclear Power Plant, (iv) tapping into the renewable energy potential, and (v) scaling up energy efficiency across all sectors. The GoA has also developed an Action Plan with detailed interventions, estimated investments, timelines, and responsible agencies.

Strengthening power transmission infrastructure for renewable energy (RE) integration is a key priority in the ESDS. Key transmission investments for HVEN will include (i) the completion of the substation rehabilitation program, and (ii) the full implementation of a Supervisory Control and Data Acquisition (SCADA) communication and automation system.

The ESDS supports the liberalization of the electricity market to enhance efficiency and introduce competition in the domestic market. This includes gradually introducing competition and balancing responsibility into the electricity market through the implementation of a multi-year reform program. Further reforms will involve the development of a new Law on Electricity, aligning with EU directive requirements and considering opportunities for a more competitive market design. Renewable energy power plants are expected to sell electricity under competitive terms without a power purchase guarantee and PPP agreements.

The ESDS aims to tap into Armenia's renewable energy potential in line with environment standards. These investments will include the construction of seven solar PV plants with a total installed capacity of about 520 MW in the next few years. Autonomous small-scale solar PV systems connected to the grid are expected to reach 100 MW of installed capacity by 2024. Utility-scale renewable energy investments are being procured

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<sup>2</sup> Statistical Committee of the Republic of Armenia (ArmStat), 2021 Energy Balance of the Republic of Armenia.

competitively under the PPP legislative framework, while distribution-level renewable energy investments are promoted through simpler support scheme including regulated tariffs or net metering. The successful implementation of these renewable energy investments requires complementary transmission network planning, operation, and investments.

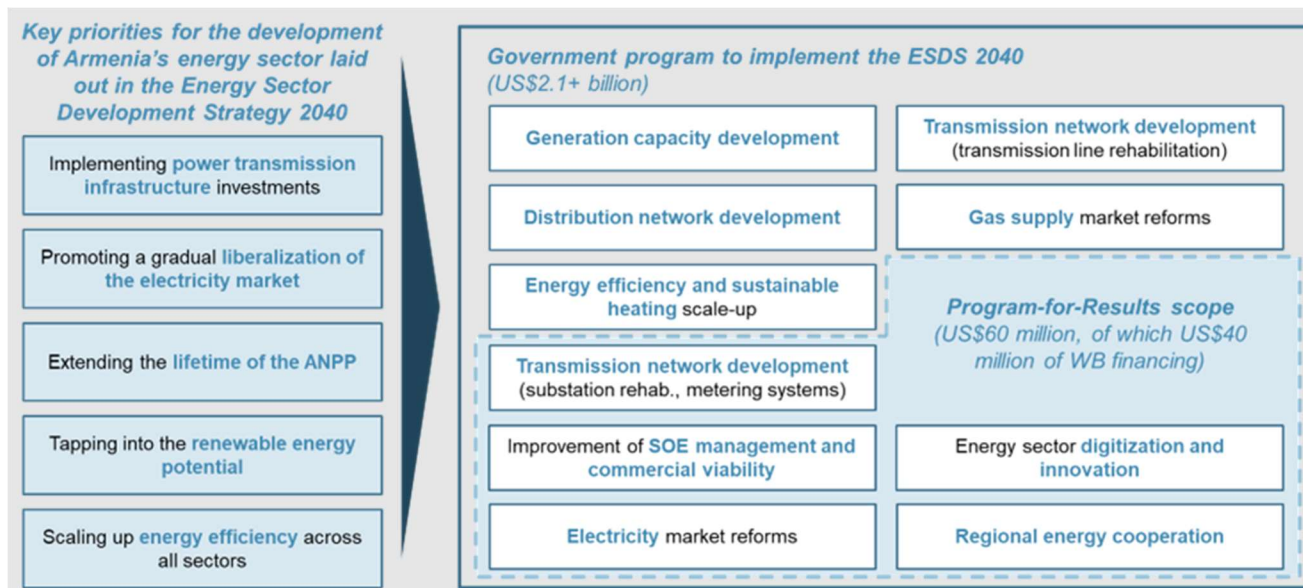
The government strategy aims to improve the management of state-owned enterprises (SEO) in the energy sector by aligning their governance and performance practices with international standards. Reforms include changes in tariff regulation tools, shifting from annual to multiyear cycles and introducing incentive-based tariff regulations. SOEs will also require improving operational performance, maintenance cost planning, and obtain international certifications such as ISO 9001, ISO 37001, ISO 50001, and ISO 14001.

## 2.3 PforR Program

### 2.2.1 PforR Program Scope

The proposed PforR (the “Program”) supports a comprehensive package of interventions focusing on rehabilitating HVEN’s power transmission substations, improving HVEN’s financial viability and performance, promoting energy sector reforms and modernization, and supporting regional energy cooperation. **Error! Reference source not found.** shows how the interventions supported by PforR fit in the broader government program developed to implement the ESDS 2040. The total cost of the government program is estimated to exceed US\$2.1 billion, spanning the years 2022-2040. The proposed PforR would be implemented between 2024 and 2029 and would cost an estimated US\$60 million, of which US\$40m would be covered by the IBRD loan and the rest by HVEN using its own resources.

**Figure 1: Government Program to Implement the ESDS 2040 and PforR Boundary**



The interventions proposed under the PforR will contribute to: (i) strengthening Armenia’s power transmission infrastructure, (ii) improving HVEN’s financial viability and performance, and (iii) enabling the integration of higher amounts of renewable energy capacity into the grid. This will in turn support the achievement of higher-level objectives stated in the ESDS 2040, specifically: (i) enhancing Armenia’s energy security, (ii) reducing the fiscal burden of the power sector, and (iii) reducing the country’s GHG emissions.

### ***Program Development Objective (PDO) and PDO-Level Results Indicators***

The Program Development Objective (PDO) is to enable the integration of increased renewable energy capacity into the power transmission grid and enhance the commercial viability of the power transmission company. (DLIs).

The disbursements under the Program will be governed by seven Disbursement-Linked Indicators (DLIs). The DLIs have been designed to promote investments and reforms to strengthen Armenia's power transmission infrastructure, improve HVEN's operational and financial performance, and enable the integration of increased renewable energy capacity into the grid.

DLIs 1 and 2 (scalable DLIs) support the installation of automated control and digital protection systems and the increase of the capacity of power transmission substations, which enables increased VRE integration into the power grid. DLI 3 focuses on achieving more efficient power transmission system operations through improved planning, the definition of energy storage activities, the merger of HVEN and EPSO into a TSO, and the implementation of Armenia's commitments under the CEPA. DLI 4 supports a gradual, further liberalization of the wholesale power market to enable new business models for renewable energy investors. DLI 5 encompasses the necessary steps for HVEN to obtain a credit rating and pilot its first round of commercial financing in the medium term. DLIs 6 and 7 focus on the modernization of HVEN's corporate management and governance (including women's representation on the Board<sup>3</sup>), which has been identified as a key precondition for HVEN to obtain a favorable credit rating and succeed in attracting commercial financing. Table 3 in Annex 1 shows the DLIs broken down into disbursement-link results (DLRs), for which the disbursement amounts and an indicative timeline for implementation are provided.

#### ***2.2.2 Implementation Arrangements***

The Ministry of Territorial Administration and Infrastructure (MTAI) will be responsible for overall Program coordination and, together with the PSRC, will be responsible for some of the policy and regulatory decisions included in the DLIs (e.g., tariff structure reform, SOE governance reform).

HVEN will be the main implementation agency. HVEN is familiar with IBRD operations, including the recently closed Electricity Supply Reliability Project (P116748) and the ongoing Electricity Transmission and Network Improvement Project (P146199). Other implementing agencies include the PSRC, MTAI, and the Electric Power System Operator (EPSO). These agencies will not incur substantial incremental expenditures for the implementation of the PforR,<sup>4</sup> but they will play a key role in taking several actions under the DLIs. The implementing agencies will provide progress reports for monitoring and oversight of the PforR to the MTAI and the Ministry of Finance, which will be the responsible signatory for the overall PforR from the government side.

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<sup>3</sup> There are several arguments in support of women's representation in company leadership positions. See for example: World Bank, "Exploring Opportunities for Gender Diversity in the Mining and Energy Sector in Serbia" (2022), available at: <https://openknowledge.worldbank.org/server/api/core/bitstreams/6669c192-c4ad-58bc-9071-93a9fca92788/content>

<sup>4</sup> Because of this, the Fiduciary Systems Assessment and the Environmental and Social Systems Assessment carried out as part of the PforR focused on HVEN only.



The allocation of the implementing agencies to the different DLIs is summarized below.

**Table 1: Implementation Arrangements by DLIs**

Disbursement-Linked Indicator	Implementing Agency			
	HVEN	PSRC	MTAI	EPSO
<b>Results Area 1: Enable the Integration of Increased Renewable Energy Capacity into the Power Transmission Grid</b>				
DLI 1: Increase in the percentage of transmission substation capacity equipped with automated control and digital protection systems.	X			
DLI 2: Increase in the total capacity of transmission substations.	X			
DLI 3: Progress toward modernization of power system planning, operation, and regulation.		X	X	X
DLI 4: Progress toward electricity market liberalization.	X	X		
<b>Results Area 2: Enhance the Commercial Viability of the Power Transmission Company</b>				
DLI 5: Increased mobilization of commercial capital for electricity transmission network infrastructure.	X	X		
DLI 6: Progress toward the modernization of HVEN's corporate management systems.	X			
DLI 7: Progress toward the modernization of HVEN's corporate governance.	X			

### 3 EXPECTED SOCIAL AND ENVIRONMENTAL EFFECTS

Overall, the adverse E&S risks and impacts associated with the Program are assessed as moderate.

**Social:** Potential social risks are associated with the rehabilitation of substations and primarily relate to labour and working conditions and worker and public health and safety. Interruptions to services may also occur; in the case of rehabilitation of substations this would relate to interruption in electricity supply to end users. The rehabilitation works are not expected to have land acquisition related impacts as all works will be carried out on existing footprints. Sexual exploitation and abuse and sexual harassment risks, from community and worker interactions related to civil works, are considered low. Whilst support is planned for tariff structure reform, this may result in a consumer tariff increase and will promote a more efficient use of electricity. Socially disadvantaged groups already benefit from reduced tariffs, but any increase could further disproportionately impact them or push other households into this category.

**Environmental:** Most of the environmental risks associated with the PforR are related to waste management. The rehabilitation of substations is anticipated to generate a considerable amount of hazardous waste which presents a challenge for its final disposal. Waste materials such as used oil, old batteries, lubricants, and replaced transformers, as well as old equipment like circuit breakers, ceramic parts and steel are expected to be generated. These materials under the completed and ongoing energy projects have been stored on-site within the HVEN's balance. The country currently lacks the capacity and systems for recycling, neutralizing, and safely disposing of hazardous waste and it does not have specialized landfills for the final disposal as well.

Waste management in the Republic of Armenia (RoA) is governed by the Waste Law, along with multiple bylaws and legal acts. To comply with the legal requirements, the producers of hazardous waste must undergo state registration and passportization processes, as well as obtain the necessary permits. More than a dozen private companies specialize in the collection, stabilization, and secure long-term storage of hazardous waste, operating with official authorization and the required permits. However, due to the high cost associated with these services, many hazardous waste generators choose to store the waste on their own premises. Additionally, the rehabilitation of some substation may involve the handling, management and safe disposal of asbestos-containing roofing sheets which were widely used in construction during Soviet times. The proper disposal of non-hazardous construction waste also poses a challenge due to the nationwide shortage of sanitary landfills that compile with modern standards. The physical work activities carry the risk of accidental spillage of toxic liquid substances from transformers. Although substations are equipped to confine spills and prevent their release into the environment, the possibility of soil and groundwater contamination cannot be completely eliminated.

On the assessment against the exclusion criteria, whilst some activities will expose workers and communities to risks of health and personal safety, these are not seen as significant risks.

The PforR will also support the adoption and updates of the ten-year network development plan. Potentially, activities in these plans will get started during the lifetime of the PforR, for any investment under these, feasibility studies would be undertaken for each investment, but not before the plans are finalized. The PforR will also support adoption of a new Electricity Law and a New Energy Efficiency Law aligned with the Comprehensive and Enhanced Partnership Agreement (CEPA) agreement. Changes in legal and regulatory framework will be done according to the national law on Normative Legal Acts, that envisages impact assessment and expertise of drafts if proposed changes may have significant impacts for private sector or public in general. In line with the Policy for PforR financing, there will be an exclusion of support to any investments

that are judged to be likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people.

As part of the corporate-level management system, HVEN will strengthen its corporate ESMS including obtaining ISO 14001 certification. The strengthening of the ESMS will ensure that HVEN have a clear policy statement and documented procedures that it applies consistently across all its operations to assess risks, put in place measures to mitigate the risks, and processes for monitoring towards continual improvement. A key component of this process will be the enhancement of waste management practices, requiring a particular focus on the management of hazardous waste expected to be generated by the Program, including the waste that has been generated so far and stored within HVEN's facilities. This will also involve exploring options and potential solutions for treating hazardous waste both within the country and beyond the country's boundaries.

The proposed PforR is aligned with the goals of the Paris Agreement on both mitigation and adaptation. On the mitigation side, the strengthening and rehabilitation of electricity transmission infrastructure to improve reliability is considered universally aligned and is not expected to impact Armenia's low-carbon development pathway. With regard to adaptation, according to the results of the climate and disaster risk screening conducted for the PforR, the impact of potential climate-related events on the Program's activities is expected to be moderate and mainly related to floods, landslides, and heat waves. To reduce the climate risks to acceptable levels, the rehabilitation of HVEN's power transmission substations supported by the Program will be planned and executed by taking into account a range of adverse conditions that might be exacerbated by climate change. For example, elevated equipment will minimize flooding risks, while advanced ventilation and cooling technologies will help maintain optimal operating conditions during extreme heat events. Specific measures (such as improving drainage and building protective walls to buttress the bottom of the slopes, where needed) will be taken to reduce the risk of landslides in the substations that are known to be prone to this risk (e.g., Marash, Yeghegnadzor). Therefore, the proposed operation is considered aligned with the adaptation goals of the Paris Agreement and is expected to support the achievement of Armenia's adaptation goals under the NDC by strengthening the climate resilience of the power sector.

## 4 ASSESSMENT OF ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEMS

This section describes the main elements of applicable borrower systems and provides an analysis of the acceptability of these systems, considering the level of risk and the extent to which borrower systems and practices are aligned with the core principles. The assessment identifies ways in which the applicable Program systems differ from relevant the core principles and assesses the operational significance of these differences. It also attempts to provides an assessment of the client's capacity to address key differences.

This section is split into three parts:

Section 4.1 covers the system as it relates to physical infrastructure investments through HVEN and the strengthening in HVEN's corporate management system and corporate governance in relation to the following DLIs:

DLI 1: Increase in the percentage of transmission substation capacity equipped with automated control and digital protection systems.

DLI 2: Increase in the total capacity of transmission substations.

DLI 3: Improvements in power system planning, operation, and regulation.

DLI 6: Progress toward the modernization of HVEN's corporate management systems.

DLI 7: Progress toward the modernization of HVEN's corporate governance.

Section 4.2 covers potential changes tariff methodology and resultant change in tariffs as determined under DLI 3 and also from DLI 5 increased mobilization of commercial capital for electricity transmission network infrastructure.

Section 4.3 covers communication and awareness raising of the changes connected to DLI 4 on the progress towards electricity market liberalization.

For the purpose of the ESSA, only the E&S systems of HVEN's will be assessed as only HVEN implemented activities involve expenditure or physical activities. The systems of EPSO and PSRC are not assessed in the ESSA nor as part of the fiduciary systems assessment.

### 4.1 Environmental and Social System: Physical Infrastructure Investments

The investment in physical infrastructure is aimed at the rehabilitation of electrical substations. Expenditures will cover the full rehabilitation of the following substations.

Shahumyan-2 substation: Operating at 220/110/10 kV, this substation was partially rehabilitated in 2003-2004 and is located in the Malatia-Sebastia district of Yerevan.

Marash substation: Operating at 220/110/10 kV, this substation underwent partial rehabilitation in 2004 and is situated in the Nor Marash district of Yerevan.

Yeghegnadzor substation: Operating at 220/110/35 kV, this substation has not been rehabilitated since its commissioning in 1966.

Expenditures will also cover ongoing rehabilitation of other substations including those that were started under the IPF projects but not yet completed. These include the following:

- Under the Electricity Supply Reliability Project P116748 - Charentsavan-3 substation, Charentsavan Community and Zovuni substation, Yerevan Community.

- Under the Electricity Transmission and Network Improvement Project P146199 - Ararat-2, located in the Ararat community.

The rehabilitation of transmission substations typically includes the upgrade and/or replacement of existing transformers and is expected to significantly improve the reliability and efficiency of the electrical supply in the areas they serve.

#### *4.1.1 Policy, Legal, and Regulatory Frameworks of Government of Armenia*

An analysis of gaps between Armenian national legislative and regulatory framework and the World Bank ESF was carried out in February-June 2023, providing an assessment of key legal and implementation and enforcement gaps between Armenia’s national system and the ESF<sup>5</sup>. The principles that guide the ESSA are similar in substance and purpose to those guiding the E&S aspects of standard Investment Project Financing (IPF) and are intended to achieve similar outcomes. For the purpose of the regulatory systems assessment for physical infrastructure investments, the key findings of gap analysis against the ESF have therefore been represented below against the core principles that guide the ESSA.

#### *Promote Environmental and Social Sustainability*

*Promote environmental and social sustainability in the PforR Program design; avoid, minimize or mitigate adverse impacts, and promote informed decision making relating to the PforR Program’s environmental and social impacts.*

Armenian legislation and implementation practices are broadly aligned with good international practice on environmental and social sustainability; however, legislation, policy, and institutional systems still need to be strengthened in a number of important areas. While addressing such gaps may have short-term costs, international experience shows that stronger national systems for E&S risk management offer long-term developmental benefits to people and the economy. The Law on Environmental Impact Assessment and Expertise (EIAE), with recent revisions in force since June 2023, is generally in line with international good practice, but carries some debatable provisions.

On social issues, the EIAE law does not comprehensively cover the identification and management of social risks and impacts. **The anticipated social effects as a result of the rehabilitation of the substations primarily relate to labor and working conditions, as well as interruptions of the electricity supply to end users during the rehabilitation activities.** As a practice, disruption of electricity supply due to rehabilitation works at the substations is minimal due to the well-coordination between the HVEN and Electric Networks of Armenia (ENA). Information on possible interruptions is communicated to the public beforehand through TV broadcasting.

Issues related to labour and working conditions in the case of substation rehabilitation are well managed. Workers undergo safety and emergency preparation instructions, wear personal protective equipment, and follow safety rules when working in the substations. However, labor and working management are generally poorly managed in construction works at the country level, and risk assessment and close monitoring should be in place for mitigation purposes.

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<sup>5</sup> Add link here:

While all substations are fenced, and the entrance of non-authorized persons is strictly banned, there remains a risk to community health and safety as a result of poor construction site management.

**The rehabilitation works will take place in the footprint of the substations; as such, no land acquisition-related impacts are expected and will be verified during preparation. Sexual exploitation and abuse and sexual harassment risks from community worker interactions related to civil works are considered low.**

Development of ESMPs is mandated, however, the law is not clear on the use of monitoring data for adaptive management of projects. It is understood that the recent sizable revision of EIAE law calls for updating or developing a number of supportive regulatory acts that would provide detailed guidance on the application of this law and be instrumental for its enforcement. Overall, due implementation of the EIAE law requires prioritization of good environmental governance and increased allocation of material and human resources.

For infrastructure projects, the EIAE Law mandates a comprehensive Environmental Impact Assessment (EIA). However, for projects not requiring EIA, the law lacks specific E&S risk assessment tools in environmental due diligence. As a result, the responsibility for assessing and managing day-to-day E&S impacts in such projects rests with the project implementing entities.

The main laws providing for efficient use of resources and pollution management are the Water Code (2002), the Law on Fundamentals of National Water Policy (2005), the Law on Energy Saving and Renewable Energy (2004), as well as the Subsoil Code (2011), the Law on Waste (2004), the Law on Waste Disposal and Sanitary Cleaning (2011) and the Law on Atmospheric Air Protection (1994).

The Law of Waste (2004) and the Law on Waste Disposal and Sanitary Cleaning (2011) rule out informal dumping and free burning of waste, prohibit disposal of hazardous waste at municipal landfills, establish ownership of waste and the system of payment for its disposal. Promoting circular economy is stated as a national objective and definitions are provided for waste separation, recovery, recycling, and reuse. Waste separation is suggested for possible reuse and encouraged at the community level, and economic incentives are suggested for waste reduction and recycling. In general, waste collection and disposal are covered by legislation way stronger, while provisions enabling circularity are sketchy and non-binding. Overall, waste management hierarchy is not established entirely with an explicit order of priority ranging from reduction to disposal.

The Law on Waste requires record keeping on generation, processing, and recycling of all types of waste, however, only the information on hazardous waste is being collected and this does not prevent mismanagement of hazardous waste. No hazardous waste landfills exist, and the only formal way of its final disposal is either incineration or export. Over a dozen private companies specialize in receiving, stabilizing, and long-term storing of hazardous waste. Their operations are official and permitted. However, services of such companies are expensive, and many entities generating hazardous waste opt to store it on their own premises, which is also subject to permitting. However, lack of institutional capacity to oversee and control hazardous waste storage at multiple public and private locations poses risk to human and environmental health. On the other hand, Environment and Mining Inspection Body is mandated to enforce all aspects of the national environmental legislation across the country, including adherence to the terms of the issued environmental permits, and is not suited well to track environmental performance at the project level.

**Investment in substations and related infrastructure will lead to the generation of both hazardous and non-hazardous construction waste. This includes a range of materials such as used oil, expired batteries, lubricants, and old transformers, as well as items like circuit breakers, ceramic components, and metal scraps, along with generation of construction debris and earth material. Roofing from substation buildings may also**

**lead to generation of asbestos slates, a legacy of Soviet-era construction practices that persist at substations.** Following the past waste management practices of HVEN, including in the closed and ongoing energy projects, hazardous waste has been safely stored in HVEN facilities with the consent/approval of the Ministry of Environment. In line with national requirements, a regulated process will be established that involves state registration for each stream of hazardous waste. This process will also examine the current capacities of licensed companies in terms of handling and neutralizing hazardous waste. Recyclable materials, such as metal scraps, will be collected and sent to specialized recycling centers. **It is necessary to have a waste management procedure for hazardous and non-hazardous waste streams produced during physical infrastructure investments as part of site-specific ESMPs.**

**Other environmental concerns include the possibility of oil spills from transformers, which, despite spill prevention systems at substations, still pose a threat to soil and groundwater. Generation of dust and noise is also anticipated because of infrastructure related construction activities.**

### *Avoid, Minimize and Mitigate Adverse Impacts*

*Avoid, minimize or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the PforR Program.*

Management of biodiversity and living natural resources is regulated by several laws, the most important being the Law on the Specially Protected Natural Areas (2004), the Law on Flora (1999), the Law on Fauna (2000), and the Law on Hunt and Hunting Economy (2007). The Law on EIAE (2014), the Law on Environmental Oversight (2005), and the Forest Code (2005) also have several direct implications for the protection and management of biodiversity. The laws concentrate on the protection of populations and specimen of wildlife, whereas protection of their habitats is not given adequate importance. There is no categorization of habitats into transformed, natural, and critical, neither and no uniform biophysical classification. Lack of consistent national monitoring of biodiversity is a major gap in baseline information affecting application of the mitigation hierarchy and the decision-making on the use of living natural resources. The Laws on Flora and Fauna both concentrate on the protection of populations and specimen of wildlife, whereas protection of their habitats is not given adequate importance.

**No risks or impacts to biodiversity are anticipated, as the physical infrastructure works will be carried out within the substation sites, and no critical biodiversity areas are identified in close proximity to the substation areas. Risks are associated with the entry of stray animals into high voltage areas due to inadequate fencing or during the replacement of old fences. A phased approach is required to ensure proper entry restriction of the site and to prevent animals from entering.**

Small-scale infrastructure works, such as earthworks, activities involving new foundations, and rehabilitation of old substation buildings, etc., will utilize natural resources such as raw materials and construction materials, which will be sourced from licensed suppliers or will require extraction permits from procured contractors.

The Law on the Protection and use of Immovable Monuments of History and Culture and Historical Surroundings (1998) and the Law on Import and Export of Cultural Values (2004) regulate the protection and use of physical cultural resources of Armenia, and the Law on Intangible Cultural Heritage (2009) protects intangible values. There are no specific regulations governing the commercial use of cultural assets and no explicit requirements for stakeholder consultation and equitable benefit sharing from the use of cultural resources. Spatial and urban planning procedures include provisions for the preservation of historic monuments

and urban heritage. However, coordinated management and enforcement are challenging as part of assets are owned by the Armenian Apostolic Church and private bodies. Economic interests often prevail over the restrictions necessary to maintain the aesthetic value and authenticity of monuments.

**No impacts on the tangible and intangible cultural resources are expected as a result of the infrastructure works, which will be confined to the footprint of the substations.**

### Protect Public and Worker Safety

*Protect public and worker safety against the potential risks associated with: (i) construction and/or operations of facilities or other operational practices under the PforR Program; (ii) exposure to toxic chemicals, hazardous waste, and other dangerous materials under the PforR Program; and (iii) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.*

**Investments in physical infrastructure carry health and safety risks for the workforce. Workers may be exposed to hazardous materials, necessitating safe handling to mitigate health risks. There is also the potential for accidents and injuries, particularly in situations where there is a risk of falling from heights, such as when working on electrical poles. In addition, high-voltage areas within substations, which may remain partially operational during the physical infrastructure works, present a risk of electrocution.**

**Health and safety risk for communities nearby are limited as all construction activities will be carried out within designated areas. All substations are fenced and protected as objects of strategic importance. The entrance of non-authorized persons is strictly banned. However, there remain a risk to community health and safety as a result of poor construction site management. SEA/SH risks, from community worker interactions related to civil works, are considered low.**

General principles of protecting health and safety of citizens and communities are embedded in the Constitution of Armenia which declares that everybody has a right to live in a natural environment that is not harmful for health. Human exposure to hazardous environments is limited through the establishment of thresholds for several physical, chemical, and biological parameters, that include exposure to vibration at the workplace, allowable levels of human exposure to noise, maximum permitted levels of pollutants in the atmospheric air within settlements, allowable levels of human exposure to electromagnetic fields, safety of drinking water, community exposure to hazardous materials, etc.

Emergency preparedness is provided through the Law on the Protection of Population in Emergency Situations (1998), Law on Fire Safety (2001), Law Seismic Protection (2002), Law on Civic Protection (2002), and a few additional regulations. The Order of the Minister of Urban Development of Armenia No.78-N (2014) on Approving Technical Regulations on Fire Safety of Buildings and Structures specifies general technical requirements for fire safety during the design, construction, and operation of a variety of premises and structures, including residential and public buildings.

The national regulatory framework is clear on the use of security forces. The State Defense Department of Police is a legal body under the Ministry of Internal Affairs that is mandated to protect strategic units of infrastructure as well as personal safety and possessions of physical and legal entities (such as commercial banks). The personnel of the State Defense Department of Police are authorized to carry and deploy firearms and other special equipment strictly within the frames established by the charter of this unit. The Law of Armenia on Private Security Activities (2012) requires mandatory licensing of guarding and security service



providers, terms of contracts they may enter with clients, rules of forceful actions and deployment of arms and equipment, etc., and establishes State control over the private security services.

Armenia has in place a comprehensive Labor Code (2004), which also includes occupational health and safety (OHS) requirements. Armenia has also ratified the core labor conventions of the ILO. The Labor Code is applicable to the citizens of Armenia, foreigners and stateless persons working in Armenia. However, only workers with legal employment contracts are protected, which applies to workers in both the public and private sectors.

To a large extent, the Labor Code also addresses the main OHS requirements. The Labor Code requires employers to provide safe and healthy work environments, conduct OHS risk assessments and plans, provide safety trainings to employees, and provide personal protective equipment, sanitary and rest facilities. The OHS standards are also regulated by specific decrees, and acts. The Labor Code requires employers to establish procedures for monitoring compliance with OHS requirements, to approve internal OHS acts and regulations, and to appoint a dedicated safety expert. It also requires employers to inform and consult employees on OHS issues and provides for the establishment of health and safety committees.

Employees who believe that their labour rights are violated can seek remedy through various judicial mechanisms, but the labour legislation does not provide grievance mechanisms at the employer level for the workers to directly raise any workplace concerns and solve individual labour disputes. Labour disputes are addressed by court according to the Code on Civil Procedure (2018). The Labor Code does provide a procedure for the resolution of collective disputes as a part of collective bargaining processes. However, enforcement of the Labor Code has been lagging, mainly due to the capacity of the Health and Labor Inspection Body (HLIB) to enforce the laws, as well as the number and pace of legislative changes in the past decade.

**There will be a need to put in place a worker grievance procedure for the physical infrastructure work for the directed and contracted workers.**

### *Manage Land Acquisition and Loss of Access to Natural Resources*

*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.*

The Law on Alienation of Property Public and State Needs (2006) governs land acquisition and resettlement and describes the procedures for it. The Constitution of the Republic of Armenia, the Land Code, and the Civil Code also note that land can be acquired for public and state interests. According to the Law, projects in the energy sector are one of those that are justified to use eminent domain. The Law requires that eminent domain is only used in “exceptional” cases and that the alienation of the property must not do unjustified harm to the owner of the property.

There are some key gaps between the Law and international best practices, including ESS5. The Law does not require public consultations or a grievance mechanism during the land acquisition process; does not cover compensation for economic and social impacts, or livelihood losses; does not include informal land users as eligible for compensation; and does not have provisions for assistance or support to disadvantaged and vulnerable people. In addition, resettlement planning and implementation suffer from the limited number of qualified and experienced project implementing unit (PIU) staff and consultants in the country. Incorrect

cadastre data may present challenges as well, though reforms and efforts to modernize and unify the cadastre are underway.

There is a need to align national legislation with good international practice by introducing requirements to conduct public consultation meetings, adopt grievance mechanisms, assess, and compensate for economic and social impacts and losses, and introduce livelihood restoration practices. Additional provisions can also cover assessing the impacts on disadvantaged and vulnerable groups.

**No risks or impacts are expected in relation to land acquisition and any loss of access to natural resources as a result of the physical infrastructure investments. All works will be undertaken on existing footprints of the substation on HVEN land.**

### Engagement, Access and Benefits

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

On social issues, the EIAE law does not explicitly require the identification or management of impacts on disadvantaged and vulnerable groups. Nor does it cover access to benefits.

National legislative framework guarantees the right to receive information and get familiar with documents relating to the activities of state and local self-government bodies and officials. The legal acts that ensure public participation and right to access information include the Law on Freedom of Information (2003), Law on Environmental Impact Assessment and Expertise (EIAE, 2014), the Law on Urban Development (1998). Armenia has also ratified the UNECE Convention on “Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters” (Aarhus convention, 1998, ratified in 2011). Armenia joined the Open Government Partnership (OGP) global initiative, which aims to make the systems of governance more transparent, accountable, and participatory. So far, Armenia has carried out four action plans to improve the access of the most vulnerable citizens to public administration and services (5th plan is ongoing, 2022-2024). In May 2022, Armenia ratified the Council of Europe Convention on Access to Official Documents. The Anticorruption Strategy of the Republic of Armenia for 2019-2023 also includes actions aiming to upgrade the existing electronic systems and establish a mechanism for the disclosure of information relevant to the public.

**There are no Indigenous Peoples in Armenia who meet the World Bank’s definition. Whilst no vulnerable people will be impacted and impacts to communities neighbouring the substations will be minimal it, a feedback and grievance mechanism will need to be in place.**

### Avoid Exacerbating Social Conflict

*Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.*

**The physical infrastructure to be supported will not be in post-conflict areas or areas subject to territorial disputes. Nor will they result in exacerbating social conflict. Displaced persons will not be impacted.**

#### 4.1.2 Assessment of Environmental and Social Management System of HVEN.

HVEN will be the main implementing agency. Whilst other implementing agencies include the PSRC, MTAI, and the Electric Power System Operator (EPSO) only HVEN's implemented activities involve expenditure or physical activities, and therefore EPSO and PSRC are not assessed in this ESSA.

This section summarises key findings of the HVENs system for assessing and managing E&S risks and impacts.

To form the baseline for the assessment, HVEN asked to undertake a self-assessment of their ESMS<sup>6</sup>. HVEN is familiar with IBRD operations, including the recently closed Electricity Supply Reliability Project (P116748) and the ongoing Electricity Transmission and Network Improvement Project (P146199). Both the self-assessment and lessons from implementation of these projects used to evidence aspects that are in place and aspects that will need to be strengthened.

##### Policy

HVEN does not have any specific policies setting out their environmental and social objectives and principles. When funded by IFIs, those activities are governed by the funding IFI's policies and standards.

The Technical Assessment for the PforR provides the following summary of the assessment of the Corporate Governance and Regulatory Framework of HVEN and Armenia's Power Sector.

*"The corporate governance review highlighted the need for HVEN to reassess the role and composition of its Board of Directors. The company's Board of Directors consists of six members, of which one is the General Director (ex officio), three are appointed by the MTAI, one by private energy sector stakeholders, and one by academic/scientific energy sector institutions. As a result, all major executive decisions and policies (including project initiatives and long-term loan attraction) within HVEN are effectively controlled by the government. Moreover, while the Board meets legal requirements set by the law, its practical implementation seems to focus primarily on formal obligations rather than fully utilizing its capabilities and potential. HVEN should ensure that its functions and powers are sufficiently well defined and properly aligned with strategy setting, corporate priorities, and management oversight. Moreover, the Board should have members with a complementary mix of skills and gender diversity (its members are currently all male). HVEN should also set up Audit and Risk committees in support of the Board. These should establish proper risk management strategies and would allow the Board to more effectively oversee the company's control systems.*

*In addition, HVEN should take further wide-ranging actions to improve its corporate governance. The company has repeatedly highlighted compliance gaps with Armenia's Corporate Governance Code (e.g., absence of independent directors), but it has not developed a plan to close them. HVEN should also develop and adopt internal policies that address the identification, approval, and disclosure of conflicts of interest. In this regard, while not required by the Armenian legislation, the adoption of a Code of Ethics would be recommended, in line with good international practices. Other governance documents that the company should adopt include a Remuneration Policy, an Information Disclosure Policy, and a company-level Corporate Governance Code."*

**It is recommended that HVEN to develop and adopt an E&S policy statement and a commitment letter from the CEO communicating the Policy to all employees. HVEN should include a definition of its wider system of**

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<sup>6</sup> Self-Assessment of Their Environmental and Social Management System, IFC, Version 2.3, October, 2015

**Environment, Social, and Governance (ESG) values, which is becoming common practice on the global corporate governance scene and is particularly important for companies that seek to raise financing from international banks and capital markets.**

### **Identification of Risks and Impacts.**

HVEN applies the national requirements to assess E&S risks and impacts or when funded by IFIs applies their standards and requirements. This means that unless the national requirements or the funding IFI requires an assessment of risks and impacts this is not routinely undertaken across all operations. The exception is on OHS where there are processes in place to assess and address such risks.

As part of DLI 6 HVEN will put in place the following as part of the modernization of its corporate management system:

ISO 9001: 2015 Quality Management.

ISO 37001: Anti-Bribery Management Systems.

ISO 27001: Information Security Management Systems.

ISO 14001: 2015 Environmental Management Systems.

**To address any gaps in coverage of social risks and impacts by ISO 14001 on EMS and towards alignment with good international industry practice it is recommended that HVEN develop and put in place procedures for identification of E&S risks and impacts across all key activities. HVEN should:**

**develop and implement a checklist of key E&S risks based on good international practices.**

**conduct a process mapping**

**develop and implement a matrix to prioritize E&S risks across all key units/operations.**

### **Management Programs**

Management programs that incorporate a mitigation hierarchy are central to the identification and assessment of E&S risks. Such programs are mandatory for only activities subject to national EIAE or those undertaken by IFIs, which necessitate the development and implementation of E&S instruments. The revised EIAE law and IFIs' E&S policies mandate the integration of mitigation hierarchy to manage E&S risks and impacts within ESMPs. However, beyond the ESMPs, HVEN lacks additional procedures and programs. This shortfall included the lack of a review process for management programs and an adaptive approach to enhance E&S performance as well. HVEN does have some systems (rules and regulations) in place to cover its occupational health and safety of its workers (assessments are provided under Emergency Preparedness and Response). HVEN may develop action plans to correct E&S, labor, and health and safety issues in response to issues identified during site visits to ongoing and during completed energy projects, and these are solely done by the E&S specialists without engagement of workers and senior management.

Moreover, there is no standardized format for an action plan that includes operational procedures, specific objectives/indicators, timelines, responsibilities, and the allocation of resources. There is no established procedure within HVEN to monitor the progress and implementation of the corrective action plans either.

While most managers and/or security staff are male workers HVEN lacks non-discrimination and anti-harassment policies, including non-discrimination policies in hiring, promotion and compensation for different workers group, including both genders, and anti-harassment policies aimed at ensuring prevention of sexual exploitation and gender-based violence at the workplace. Labor risks associated with age, gender, ethnicity of

the employee are not assessed. There is no GBV-sensitized procedure for workers to express their complaints (grievance mechanism).

**Based on identification of key risks, HVEN to identify measures that need to be in place in terms of plans and procedures. HVEN need to develop and implement an action plan for those plans and procedures that need to be put in place and assigned responsibilities to address and mitigate E&S risks and impacts across all key activities. The action plan should include the activity, deadline, and person responsible. HVEN should assign someone to be responsible for organizing and updating the plan.**

**HVEN needs to develop and adopt policies against discrimination in the workplace and sexual harassment and communicate those policies to managers, supervisors and workers adhering to zero tolerance policy toward any form (verbal or physical) of sexual harassment and discrimination.**

### Organizational Capacity and Competency

E&S issues within HVEN are managed by the newly established department of Environmental Protection and Sociology. The Department involves the Head of the Unit, an Environmental Specialist, and a Social Specialist. While Environmental and Social Specialists used to work at the HVEN for multiple years there were not part of a designated E&S unit within the HVEN. At the moment, the number of specialists is sufficient to cover the work for the existing projects, and new staff may be hired if the number of projects increases.

Two other departments are responsible for the occupational health and safety and security, namely the Department of Technical Oversight and Occupation Safety and the Security Unit. In addition, the Activity Stability Enhancement Commission of HVEN develops and implements annual plans aimed at preventing emergency situations and accidents, preparing employees for emergencies, implementing works during emergency situations, and ensuring the stable operation of the management system in case of emergencies.

All the above-mentioned departments, including The Department of Environmental Protection and Sociology are reporting to the General Director of HVEN.

**There is a need to strengthen the newly established department in terms of improving knowledge and capacities for strengthening the systems and to ensure there is support from senior management giving responsibility to the department for development of policies and procedures, decision-making, as well the necessary training is undertaken across all operations. This should include:**

**Assign and train a team leader to develop and implement Action Plans.**

**Define roles and responsibilities for managing E&S risks in all areas including decision-making.**

**A training plan to for all key staff to support them in putting in place policies and procedures for an effective ESMS.**

**Assign and train key managers to monitor E&S in key areas.**

**Expand the new employee training to understand risk identification, action plans and grievance mechanisms.**

**Assign and train staff and worker representatives.**

**Conduct refresher training for all employees.**

### Emergency Preparedness and Response

This section covers OHS and emergency preparedness and response as the same Department of Technical Oversight and Occupation Safety and The Activity Stability Enhancement Commission of HVEN are responsible for these areas.

HVEN has robust system of emergency preparedness and response. HVEN develops and implements annual emergency preparedness and civil defence plans in close collaboration with the Rescue Service of the Ministry of Internal Affairs and Crisis Management State Academy. Emergency preparedness includes both training of the staff and drills and exercises. Those plans aim at both prevention of risks of emergency situations and accidents, such as ensuring of firefighting system at the substations, expertise of equipment and buildings, and smooth operation of the substations and transmission lines, as well as HVEN management during emergencies.

**For emergency preparedness and response, work with a specialist to review systems and plans in place towards improvements. Conduct periodic consultations with the community/ties neighbouring their sites to identify on-site and off-site emergency scenarios.**

HVEN has internal rules and regulations concerning occupational health and safety, and it adheres to the technical normative acts established by the government. Occupational health and safety (OHS) risks are classified as “low”, “moderate”, or “high”, and rules and responsibilities may vary depending on the complexity of the work and associated hazards. These regulations stipulate the need for training on OHS for HVEN employees, internships for new employees, testing of OHS and professional knowledge, firefighting and emergency drills and exercises, among others. However, these regulations only apply to HVEN staff and do not encompass contractors, subcontractors, and suppliers. Contractors and sub-contractors themselves are responsible for carrying out OHS training for their employees working in the substations or other high-risk areas while they also receive training and instructions from HVEN.

**For OHS HVEN should ensure the same level of coverage for contracted workers including through reviewing plans and procedures and supporting training of contracted and subcontracted workers. An effective grievance mechanism for workers also needs to be put in place and operationalised for all workers.**

### Stakeholder Engagement

As a rule, HVEN addresses issues internally and engages with stakeholders if required by external investors or by national legislative framework. Similarly, stakeholders are involved in the management of E&S issues if required by IFIs or by national law. A comprehensive stakeholder mapping for HVEN as an organization is lacking, however it is done for separate projects financed by IFIs. Likewise, the company does not have stakeholder engagement plan in place, if not required by external funders. Engagement with stakeholders occurs on an ad hoc basis during the course of implementation of the various projects. Typically, HVEN does not engage with external stakeholders to enhance E&S performance unless compelled by external funders.

**HVEN should develop a map of key stakeholders including groups that are affected by their operations and have in place a policy and procedure for responding to stakeholders. HVEN should consult with key groups as part of their risk assessment process and document and track engagement efforts and key discussion outputs.**

### External Communication and Grievance Mechanism

Based on current practices, when grievances are received from local communities concerning negative environmental and/or social impacts, HVEN would typically request details from complainants and address the issues internally. Local communities may also participate in the submission and resolution of grievances. All grievances are directed to the Director, who then assigns them to the respective units and establishes timelines for resolution. These timelines may vary depending on the case. In some instances, resolution discussions may involve contractors and/or local municipalities.

The procedure for investigating complaints is formalized and all correspondence related to grievance resolution is retained for five years. However, no unified logbook is available. For projects financed by IFIs, an HVEN Social Specialist is responsible for handling inquiries, concerns, or formal complaints from external stakeholders. In other cases, each unit is accountable for addressing inquiries, concerns, or formal complaints assigned to them.

HVEN has established communication channels to receive grievances and inquiries from external stakeholders. Specifically, HVEN's website provides contact information (postal address, phone number, email) and a form for direct inquiry submission. Grievances submitted to the Ministry of Territorial Administration and Infrastructure that involve HVEN are also directed to the company, and the resolution timeframe defined by law is adhered to. However, these communication channels and grievance resolution procedures are not proactively shared with the public. Generally, communication channels are promoted for projects funded by IFIs.

**Develop and implement external communications channels and management system. For managing grievances effectively across all operations, HVEN should have in place a central system for capturing information on external communications and grievances and ensure that:**

**All employees are trained in the procedure and system.**

**Extend the system to cover contractors.**

**Analyse engagement and feedback and grievances to inform improved risk management including plans.**

**Include complaints and resolutions in public reporting.**

#### *Ongoing Reporting to Affected Communities*

If affected communities express concerns or file complaints regarding E&S risks and impacts, HVEN responds when contacted with a specific request for information. HVEN provides reports to affected communities detailing the actions taken to address their raised concerns. Depending on the circumstances, reporting channels may involve meetings with the affected communities, disclosure of information on the HVEN website, written reports, and other appropriate means.

**HVEN should, at a minimum, develop a procedure and assign staff for reporting to affected communities on key risks and action plans.**

#### *Monitoring and Review*

HVEN does not have a standalone monitoring plan to monitor E&S (i.e. OHS, labor, community) performance. As a rule, monitoring is done in case there is specific issue. E&S performance is tracked for the project funded by IFIs.

**HVEN should develop a procedure for monitoring any significant E&S risks as well as most probable risks and assign staff to be in charge of monitoring those risks across its operations.**

## 4.2 Changes to tariff methodology and tariffs

Tariff reforms can play a crucial role in supporting the SOE reform process. While electricity tariffs in Armenia cover the full costs of the system, more needs to be done to tweak the tariff structure to allow power sector companies to raise investment financing and ensure the efficiency of the tariff schedule.

Under the PforR, PSRC would be asked to adopt a new tariff methodology that: (i) includes reactive power pricing (DLR 3.3), and (ii) ensures multi-year predictability of regulated returns, provide adequate returns on debt-financed commercially in foreign currency, and provide for adequate staffing for fiduciary and E&S

functions (DLR 5.2). This tariff reform would have an impact only on the transmission component of the tariff, which is a relatively small component of the total tariff structure (the largest one being the cost of electricity itself). However, tariffs would inevitably increase a bit.

The Law on Public Service Regulatory Body (2003) and the Law on Energy (2001) regulate the main relationships in the energy sector, including those between consumers and service providers. According to the Law on Public Service Regulatory Body, PSRC, an independent regulatory body, is responsible for setting tariffs and overseeing the energy sector in Armenia. The Law defines the principles of regulation in the public service provision sector, the general principles of operation of regulatory body, administrative procedures initiated by the Commission, etc. The Law on Energy (2001) defines the main principles of state policy and regulations in the energy sector, regulatory tariffs and service fees, licensing and contracting principles of actors in the sector, remedies and liabilities, and guarantees for energy supply to users.

According to the Law on Energy tariffs are one of the means of regulation, and once defined by the Committee, those are in force for the following six months, except for the cases defined by the Law.

The Government Decision adopted on November 3, 2016, regarding the reduction of tariffs for natural gas and electricity for socially disadvantaged families suggests that the PSRC considers socially disadvantaged families as a distinct group and establish possible minimal tariffs for them. Subsequently, water supply and discharge services were later added to the list. Socially disadvantaged families are defined, by a Government Decision, based on an insecurity scale calculated in the family insecurity assessment system (also known as the family benefits system)<sup>7</sup>. The Decision does not define the tariffs and those are calculated and defined by the PSRC. According to the latest tariffs, socially disadvantaged families pay 29.99 AMD/kWh for daytime electricity and 19.99 AMD/kWh for nighttime, compared to 46.48 and 36.48 for the rest of the population, respectively.

Socially disadvantaged groups already benefit from reduced tariffs in Armenia, but any increase could further disproportionately impact them or push other households into this category. However, it is expected that the tariff reforms will only produce relatively small tariff increases (below inflation levels).

The PSRC has a robust grievance redress system in place, which includes the reception of citizens. Each member of the Committee has a designated time once a month to receive citizens. The hotline numbers of service providers are available on the Committee's website. Additionally, the website discloses contacts for personnel responsible for whistleblowing, the official overseeing freedom of information, the lawyer managing anti-corruption programs, and the phone numbers of all committee members and staff. Applicants have various channels to reach out to the PSRC, including phone, email, filling out the form on the website, sending postal mail, or submitting grievances through the [www.e-request.am](http://www.e-request.am) unified electronic portal. The Committee also publishes statistics on the number of requests received and their resolution rate.

PSRC will be further involved in the consultations of the key findings of the ESSA and further details on the tariff regulations and PSRC GRM will be provided at the later stages.

### 4.3 Communication and awareness raising on market liberalization

DLI 4 on progress towards electricity market liberalization and independent regulation in the power sector in Armenia, which enables new business models for renewable energy investors; targets electricity market liberalization. Efficient and smooth implementation of the reforms depends on proper public communication and awareness raising that has been covered by the USAID's Market Liberalization and Electricity Trade

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<sup>7</sup> RA Government decision adopted on November 3, 2016, designates those with a score exceeding 20 as socially disadvantaged to benefit from the reduced tariffs.



program, launched in 2018. Under the Program by 2023 USAID completed a communications campaign to build public awareness of the reforms via television broadcasts, short videos, infographics, and trainings for journalists. Some highlights included Public Service Announcement (PSAs) on the fundamentals of the reforms and interviews with high-profile energy sector experts aired on Public TV, and a media contest that recognized trained journalists who wrote articles on the market and energy sector.

USAID program also provided technical assistance and capacity-building to ensure that relevant public entities and market participants can effectively operate in the new market structure, and fair operation and transparency is maintained. The activities included supporting the PSRC in updating the market rules, training +40 individuals (e.g. PSRC, HVEN, ANPP, Competition Protection Commission, and incoming market participants) on the market rules and the online software that enables transactions, and supporting the Electricity Market Operator with modifying the software as the market continues to develop.

As USAID plans to continue its activities in the sector supporting market liberalization, the activities related to this DLI in terms of communication and awareness raising are not included in the action plan of the ESSA, already covered or to be covered by USAID program. Meanwhile, representatives of USAID involved in the Market Liberalization and Electricity Trade Program will be invited to the stakeholder consultations of the ESSA to provide their feedback and observations on potential gaps in communications and awareness raising that the ESSA may cover.

## 5 STAKEHOLDER ENGAGEMENT

This section provides a summary of the engagement activities undertaken for the Enabling the Energy Transition PforR and specifically for undertaking the ESSA as well as future engagement activities for the disclosure of the ESSA report.

Stakeholder consulted for the PforR preparation and ESSA include the following: Ministry of Territorial Administration and Infrastructure (MTAI), Ministry of Finance (MoF), Ministry of Environment, High Voltage Electric Networks of Armenia CJSC (HVEN), Renewable Resources and Energy Efficiency (R2E2) Fund, Public Services Regulatory Commission (PSRC), Electric Power System Operator (EPSO) and Electric Power Market Operator (EPMO). Engagement, to inform Program design as well as the associated assessments, was undertaken between March 2022 and February 2024 through one-to-one meetings, formal presentations, workshops, round table discussions and the sharing of project documentation.

Consultations were undertaken between February 2023 and February 2024 to inform about the rehabilitation of the substations that will be supported as part the Program.

The consultations with the central government were aimed at program identification and introduction of PforR tool. The consultation with the Ministry of Environment on the PforR focused on discussing hazardous waste policy and governance, identifying issues and gaps, and understanding new developments and existing capacities in the country.

Consultations with HVEN were aimed at program identification, introduction of PforR tool, introduction to ESSA, including main E&S risks and impacts and assessment of HVEN's E&S management systems. USAID was consulted in terms of their engagement in market laterization communications.

Stakeholder groups (to be) consulted include both government and non-government stakeholders at national and sub-national levels. The **affected parties** of the Energy PforR include government agencies, energy producers, transmission and distribution companies, technology provides, local communities, consumers, both private sector and households. Other **interested parties** include renewable energy developers, development partners and civil society organizations.

**Central Government Agencies** affected by the Project include the MTAI, responsible for policy making including for the energy sector, and particularly, the Energy Department within the Ministry, responsible for development of strategic plans in energy sector, including renewables and energy efficiency. Other governmental agencies include the Ministry of Finance and the Ministry of Environment. PSRC is also among the implementing agencies responsible for achievement of several DLIs.

**Implementing agencies and sector operators:** High Voltage Electric Networks is the main implementing agency of the Program, while EPSO will be involved in achievement of two DLIs. Other funds/sector operations affected include R2E2 Fund and EPMO.

**Local Communities:** Three substations set to undergo full renovation under the PforR are situated in Yerevan and Vayots Dzor Marz: ones in the Malatia-Sebastia and Norq Marash districts of Yerevan, and the other in Yeghegnadzor town in Vayots Dzor Marz. The substations in Malatia-Sebastia and Norq Marash are situated in sparsely populated residential areas, whereas the substation in Yeghegnadzor is located far from residential areas, between two settlements – Yeghegnadzor town and Getap village, both part of Yeghegnadzor consolidated community as an administrative unit. Accordingly, local

communities to be affected by the renovation work include Yerevan, namely Malatia-Sebastia and Norq Marash districts and Yeghegnadzor consolidated community, namely two settlements, Yeghegnadzor town and Getap village.

**Private Sector stakeholders include** energy producers, transmission and distribution companies, technology providers, such as Armenian Nuclear Power Plant (ANPP), Electric Network of Armenia (ENA) CJSC, etc.

**Civil Society Organisations** include those representing the interests of energy consumers, ensuring fair pricing, accessibility, and transparency in energy services, such as Consumers Association NGO, Consumers Consulting Center NGO, Consumers Support Center NGO, etc. CSOs that are involved in the topics such as sustainable development, environmental conservation, and promotion of transparency and accountability are also interested parties, such as Transparency International Anticorruption Center (TIAC), Armenian Environmental Network (AEN), Orhus Center of Yeghegnadzor NGO, etc.

**Development partners** active in energy sector in Armenia include European Bank for Reconstruction and Development (EBRD), KfW- Kreditanstalt für Wiederaufbau, US Agency of International Development (USAID), Energy Regulators Regional Association (ERRA), National Association of Regulatory Utility Commissioners (NARUC), Asian Development Bank (ADB), etc.

A consultation workshop on the draft ESSA will be undertaken. The draft ESSA report, both in Armenian and English, will be circulated prior to the formal consultation. Observations from the workshop will be incorporated into the ESSA report and a complete list of participants and a summary of their comments will be included in Annex 3.

The final draft of the ESSA report will be disclosed publicly through the World Bank external website and public comments will be solicited during a period defined and reserved for comments.

**Grievance Redress.** Communities and individuals who believe that they are adversely affected as a result of a Bank supported PforR operation, as defined by the applicable policy and procedures, may submit complaints to the existing program grievance mechanism or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address pertinent concerns. Project affected communities and individuals may submit their complaint to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted at any time after concerns have been brought directly to the Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit <https://accountability.worldbank.org>.

## 6 CONCLUSION AND RECOMMENDED PROGRAM ACTION PLAN

The overall E&S effects of the Program are expected to be positive, however under DLIs 1 and 2 there are potential E&S risk and impacts that relate to the rehabilitation of the substations. These are: the generation of hazardous waste from substations rehabilitation, inadequate national capacity for recycling and final disposal, and potential soil and groundwater contamination from accidental spillages of dangerous liquids from transformers, and worker and community health and safety issues due to poor management of construction site.

Through supporting DLIs 6 and 7, in particular DLI 6 which relates the modernization of HVEN's corporate management systems, the Program provides an opportunity to strengthen HVEN's ESMS including to fill the gaps between their existing ESMS and international good practice identified through this ESSA.

These measures will be implemented through the actions presented the following table.

**Table 2: Environmental and Social Action Plan**

No	Action	Timeline
<b>Actions relating to substations to be newly rehabilitated (Marash, Shahumyan-2, and Yegheghandzor)</b>		
1	HVEN to undertake E&S screening of the activities related to the rehabilitation of sub-stations	Prior to start of works
2	HVEN to develop site-specific ESMPs in line with risks identified during the screening, disclose and consult on, thereafter adopt and implement.	Develop and adopt prior to start of works and thereafter implement throughout Program implementation
3	HVEN to establish workers grievance mechanism covering direct and contracted workers.	Develop and adopt prior to start of works and thereafter implement throughout Program implementation
4	HVEN to develop a training plan on worker and community health and safety, including on safe handling of hazardous waste, and ensure training of all direct and contracted workers.	Develop and adopt prior to start of works and thereafter implement throughout Program implementation
5	HVEN to ensure public grievance mechanism is in place, is communicated and operationalised.	Prior to start of works and thereafter implement throughout Program implementation
<b>Actions relating to substations for which rehabilitation started under World Bank-financed Investment Project Financing Projects (ETNIP and ESRP), but was not completed within the IPF period (Ararat-2, Charentsavan-3 and Zovuni)</b>		
6	Where rehabilitation works were paused and have yet to re-start, HVEN to update the ESMP and thereafter adopt and implement.	Update and adopt ESMP and thereafter implement throughout Program implementation
7	Where rehabilitation works are ongoing, HVEN to continue to implement ESMPs without changes.	Implement ESMPs for substations throughout Program implementation
<b>Actions relating to substations where rehabilitation works were initiated with self-financing or other IFI financing (Shinuhayr, Agarak-2, and Lichk)</b>		
8	HVEN to apply strengthened ESMS.	Measures and timelines as per the ESMS actions 9-20 below.
<b>Actions to strengthen HVEN Corporate ESMS and towards obtaining certification for compliance with ISO 14001: 2015 Environmental Management Systems.</b>		
9	HVEN to develop and adopt an E&S policy statement and a commitment letter from the CEO communicating the Policy to all employees.	Year 1
10	HVEN should include a definition of its wider system of Environment, Social and Governance (ESG) values, which is becoming common practice on the global corporate	Year 1

No	Action	Timeline
	governance scene and is particularly important for companies that seek to raise financing from international banks and capital markets.	
11	HVEN needs to develop and adopt policies against discrimination in the workplace and sexual harassment and communicate those policies to managers, supervisors and workers adhering to zero tolerance policy toward any form (verbal or physical) of sexual harassment and discrimination.	Year 1
12	HVEN to develop and put in place procedures for identification of E&S risks and impacts across all key activities. HVEN should consult with key groups as part of their risk assessment process and document and track engagement efforts and key discussion outputs.	Year 1
13	HVEN to develop a map of key stakeholders including groups that are affected by their operations and have in place a policy and procedure for responding to stakeholders.	Year 1
14	HVEN to develop and implement an action plan for E&S plans and procedures that need to be put in place and assign responsibilities to address and mitigate E&S risks and impacts across all key activities.	Year 2
15	HVEN to develop and implement a training plan to strengthen the capacity of the newly established department and of other key staff to put in place policies and procedures for an effective ESMS.	Year 2
16	HVEN to develop a procedure and assign staff for reporting to affected communities on key risks and action plans.	Year 1
17	For emergency preparedness and response, HVEN to conduct periodic consultations with the community to identify on-site and off-site emergency scenarios.	Year 2
18	For OHS, HVEN to ensure the same level of coverage for contracted workers including through reviewing plans and procedures and supporting training of contracted and subcontracted workers.	Year 2
19	HVEN to ensure an effective grievance mechanism for workers is put in place and operationalised or all workers.	Year 2
20	HVEN to develop a procedure for monitoring any significant E&S risks as well as most probable risks and assign staff to be in charge of monitoring those risks across its operations.	Year 3

As part of the PforR there will be support to activities for which either measures are already in place or where there is potential to recommend further good practice. These are covered below:

**Tariffs:** While socially disadvantaged groups already benefit from reduced tariffs, any increase could further disproportionately impact them or push other households into this category. The system of reduced tariffs are expected to remain in place to support disadvantaged groups and it is expected that the tariff reforms will only produce relatively small tariff increases (below inflation levels).

**Legislative and regulatory changes:** It is expected that there will be increasing use of renewable energy including through investment in solar and wind energy. It is recommended that as part of any regulations or guidelines that are put in place following the adoption of the laws, that guidance is included on responsible sourcing of materials, and responsible disposal at end-of-life.

**Market liberalization:** Social risks include poor awareness and understanding of private sector and public in general on the ongoing market liberalization reforms. USAID is already covering awareness raising and communication on market liberalization and any potential gaps in awareness and communication will be monitored and addressed based on close cooperation with USAID.

**Exclusions:** In line with the Policy for PforR financing, there will be an exclusion of support to any investments that are judged to be likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people.

## Annex 1: Program Results Framework

### Program Development Objective(s)

Enable the integration of increased renewable energy capacity into the power transmission grid and enhance the commercial viability of the power transmission company.

### Disbursement Linked Indicators (DLI)

**Table 3. DLIs, DLRs, Allocations, and Indicative Timeline for Achievement.**

Disbursement-Linked Indicators (DLIs)	Disbursement-Linked Results (DLRs), Allocations, and Indicative Timeline for Achievement					
	Baseline / Prior Results (PR)	Year 1 (Dec 2024)	Year 2 (Dec 2025)	Year 3 (Dec 2026)	Year 4 (Dec 2027)	Year 5 (Dec 2028)
<b>Results Area 1: Enable the Integration of Increased Renewable Energy Capacity into the Power Transmission Grid</b>						
<b>DLI #1:</b> Increase in the percentage of transmission substation capacity equipped with automated control and digital protection systems. <i>(Scalable DLI; US\$12m)</i>	<b>Formula:</b> from the baseline of 43%, an amount of US\$211,000 shall be paid for each incremental percentage point of total transmission substation capacity equipped with automated control and digital protection systems, up to the allocated amount of US\$12,000,000.					
	<b>Baseline #1 (2022):</b> 43 percent  <b>PR #1:</b> 50 percent	<b>DLR #1.1:</b> 70 percent	<b>DLR #1.2:</b> 75 percent	<b>DLR #1.3:</b> 76 percent	n.a.	<b>DLR #1.4:</b> 100 percent
	<b>US\$1.477 million</b>	<b>US\$4.220 million</b>	<b>US\$1.055 million</b>	<b>US\$0.211 million</b>	<b>0</b>	<b>US\$5.037 million</b>
<b>DLI #2:</b> Increase in the total capacity of transmission substations. <i>(Scalable DLI; US\$12m)</i>	<b>Formula:</b> from the baseline of 2,711 MVA, an amount of US\$31,000 shall be paid for each incremental MVA of transmission capacity increase, up to the allocated amount of US\$12,000,000.					
	<b>Baseline #2 (2022):</b> 2,711 MVA  <b>PR #2:</b> 2,835 MVA	<b>DLR #2.1:</b> 2,960 MVA	<b>DLR #2.2:</b> 3,084 MVA	<b>DLR #2.3:</b> 3,109 MVA	n.a.	n.a.
	<b>US\$3.844 million</b>	<b>US\$3.875 million</b>	<b>US\$3.844 million</b>	<b>US\$0.437 million</b>	<b>0</b>	<b>0</b>

Disbursement-Linked Indicators (DLIs)	Disbursement-Linked Results (DLRs), Allocations, and Indicative Timeline for Achievement					
	Baseline / Prior Results (PR)	Year 1 (Dec 2024)	Year 2 (Dec 2025)	Year 3 (Dec 2026)	Year 4 (Dec 2027)	Year 5 (Dec 2028)
<b>DLI #3:</b> Improvements in power system planning, operation, and regulation. <i>(Discrete DLI; US\$2m)</i>	<b>Baseline #3 (2022):</b> EPSO has published the first update of the ten-year network development plan.	<b>DLR #3.1:</b> EPSO has published the second update of the ten-year network development plan.	n.a.	<b>DLR #3.2:</b> EPSO has published the third update of the ten-year network development plan.	<b>DLR #3.3:</b> A new Electricity Law and a new Energy Efficiency and Renewable Energy Law aligned with the CEPA agreement have been submitted to the National Assembly, defining the functions of the TSO and energy storage investment activities in line with EU standards.	<b>DLR #3.4:</b> PSRC has: (i) approved minimum operational rules and obligations on network security that are compliant with Directive 2005/89/EC and (ii) published the criteria relating to the management of imbalances by HVEN in emergency situations.
	<b>0</b>	<b>US\$0.3 million</b>	<b>0</b>	<b>US\$0.3 million</b>	<b>US\$0.9 million</b>	<b>US\$0.5 million</b>
<b>DLI #4:</b> Progress toward electricity market liberalization. <i>(Discrete DLI; US\$3m)</i>	<b>Baseline #4 (2021):</b> Armenia did not have a liberalized wholesale electricity market before 2021.	<b>DLR#4.1:</b> PSRC has mandated that large electricity customers <sup>8</sup> connected to 35 kV and above must become qualified consumers in the liberalized wholesale market or choose a supplier.	<b>DLR #4.2:</b> (i) PSRC has mandated that large electricity customers connected to 6/10kV and above must become qualified consumers in the liberalized wholesale market or choose a supplier.  (ii) PSRC has an adequately staffed and fully operational market monitoring function.	<b>DLR #4.3:</b> PSRC has mandated that all large electricity consumers must become qualified consumers in the liberalized wholesale market or choose a supplier, irrespective of the voltage level.	<b>DLR #4.4:</b> HVEN has upgraded the metering infrastructure in the transmission network to allow for accurate metering on an hourly basis of all electricity transmission losses.	<b>DLR #4.5:</b> PSRC has materially reduced the electricity consumption threshold above which large electricity customers must become qualified consumers in the liberalized wholesale market or choose a supplier.

<sup>8</sup> Defined at the moment as consumers with more than 1 GWh per year.



Disbursement-Linked Indicators (DLIs)	Disbursement-Linked Results (DLRs), Allocations, and Indicative Timeline for Achievement					
	Baseline / Prior Results (PR)	Year 1 (Dec 2024)	Year 2 (Dec 2025)	Year 3 (Dec 2026)	Year 4 (Dec 2027)	Year 5 (Dec 2028)
	0	US\$0.5 million	US\$1.0 million	US\$0.5 million	US\$0.5 million	US\$0.5 million
<b>Results Area 2: Enhance the Commercial Viability of the Power Transmission Company</b>						
<b>DLI #5:</b> Increased mobilization of commercial capital for electricity transmission network infrastructure. <i>(Discrete DLI; US\$5m)</i>	<b>Baseline #5 (2022):</b> HVEN's investment program is fully financed from public or publicly guaranteed borrowing, and the tariff methodology does not provide for pass-through of foreign exchange risks of commercial borrowing.	<b>DLR #5.1:</b> HVEN's Board has approved a financing strategy and roadmap for 2024-2030.	n.a.	<b>DLR #5.2:</b> (i) HVEN has submitted a tariff application in line with the revised methodology <sup>9</sup> and reflecting adequate staffing, including technical, fiduciary, and E&S functions; (ii) PSRC has adopted a new electricity tariff for HVEN in line with the revised methodology.	<b>DLR #5.3:</b> HVEN's corporate code is updated to allow for options to issue debt with adequate credit enhancement, and HVEN has obtained a credit rating either for the company or for a specific securitized debt issuance.	<b>DLR #5.4:</b> HVEN has piloted a first commercial financing transaction.
	0	US\$1 million	0	US\$2 million	US\$1 million	US\$1 million
<b>DLI #6:</b> Progress toward the modernization of HVEN's corporate management systems. <i>(Discrete DLI; US\$2m)</i>	<b>Baseline #6 (2023):</b> HVEN has not implemented any of the management modernization targets included in the 2040 Energy Strategy.	n.a.	<b>DLR #6.1:</b> HVEN has obtained certification for compliance with ISO 9001: 2015 Quality Management.	<b>DLR #6.2:</b> HVEN has obtained certification for compliance with ISO 37001: Anti-Bribery Management Systems.	<b>DLR #6.3:</b> HVEN has obtained certification for compliance with ISO 27001: Information Security Management Systems.	<b>DLR #6.4:</b> HVEN has obtained certification for compliance with ISO 14001: 2015 Environmental Management Systems.
	0	0	US\$0.5 million	US\$0.5 million	US\$0.5 million	US\$0.5 million

<sup>9</sup> The revised tariff methodology will be based on the findings of a recent study conducted by KPMG and financed by the World Bank that assessed HVEN's financial viability and performance and provided recommendations for HVEN to mobilize commercial financing. The revised tariff will have to ensure multi-year predictability of regulated returns and provide adequate returns on debt financed commercially in foreign currency. The outcomes of the study are discussed in detail in Annex 3.

Disbursement-Linked Indicators (DLIs)	Disbursement-Linked Results (DLRs), Allocations, and Indicative Timeline for Achievement					
	Baseline / Prior Results (PR)	Year 1 (Dec 2024)	Year 2 (Dec 2025)	Year 3 (Dec 2026)	Year 4 (Dec 2027)	Year 5 (Dec 2028)
<b>DLI #7:</b> Progress toward the modernization of HVEN’s corporate governance. <i>(Discrete DLI; US\$4m)</i>	<b>Baseline #7 (2023):</b> The role of HVEN’s Board is not clearly defined, there are no adequately staffed board committees, and there are no female and no independent board members.	<b>DLR #7.1:</b> The role of the Board in strategy setting, performance objectives and monitoring, management supervision, and control in the Memorandum & Articles of Association of HVEN is compliant with Armenia’s Corporate Governance Code.	<b>DLR #7.2:</b> A Board Audit Committee or a combined Audit and Risk Committee, staffed with members possessing appropriate skills and experience, and with terms of reference compliant with Armenia’s Corporate Governance Code, is established.	<b>DLR #7.3:</b> A Board Nomination and Remuneration Committee, staffed with members possessing appropriate skills and experience, and with terms of reference compliant with Armenia’s Corporate Governance Code, is established.	<b>DLR #7.4:</b> A Board Investment Committee, staffed with members possessing appropriate skills and experience, and with terms of reference compliant with Armenia’s Corporate Governance Code, is established.	<b>DLR #7.5:</b> At least two positions in HVEN’s Board are staffed by independent Board Members, and at least 30 percent of Board members are female.
	<b>0</b>	<b>US\$0.5 million</b>	<b>US\$0.5 million</b>	<b>US\$0.5 million</b>	<b>US\$0.5 million</b>	<b>US\$2 million</b>

## Annex 2: Environmental and Social Risks and Impacts Screening

An initial analysis of the E&S aspects of the proposed Program is presented in the following table:

**Program Development Objective (PDO):** Enable the integration of increased renewable energy capacity into the power transmission grid and enhance the commercial viability of the power transmission company.

**Expenditure:** The total cost of the government program is estimated to exceed US\$2.1 billion, spanning the years 2022-2040. The proposed PforR would be implemented between 2024 and 2029 and would cost an estimated US\$70 million, of which US\$40 million would be covered by the IBRD loan and the rest by HVEN using its own resources.

Results Indicators	E&S Effects and Risks	Scope of the ESSA
<b>Results Area 1: Enable the Integration of Increased Renewable Energy Capacity into the Power Transmission Grid</b>		
<p>DLI 1: Increase in the percentage of transmission substation capacity equipped with automated control and digital protection systems. (Scalable DLI; US\$12m)</p> <p>DLI 2: Increase in the total capacity of transmission substations. (Scalable DLI; US\$12m)</p>	<p>No E&amp;S assessments are in place for the rehabilitation works. Under the ongoing projects, prepared and implemented under the safeguards policies, HVEN developed Environmental Management Plans (EMPs) that underwent public consultations in the nearby local communities. During the construction activities, the Contractors submitted Monitoring Environmental Reports (MERs) to HVEN. HVEN employs one turnkey contractor to perform the final design, procurement, installation, and testing and commissioning of concerned equipment at existing substations. The Contractor’s Environmental Teams were responsible for the implementation of the EMPs, and HVEN E&amp;S team was responsible for overseeing the contractor’s compliance with Government and Bank Requirements with bi-annual environmental monitoring reports presented to the Bank.</p> <p>The anticipated social effects as a result of the rehabilitation of the substations primarily relate to labour and working conditions and interruptions of the electricity supply to end users during the rehabilitation activities, which as a practice are minor and well-managed. Whilst all substations are fenced, and the entrance of non-</p>	<p>The rehabilitation of the transmission substations typically includes the upgrade and/or replacement of existing transformers.</p> <p>- The three substations that need to be fully rehabilitated include Shahumyan-2 (220/110/10 kV, partially rehabilitated in 2003-2004), Marash (220/110/10 kV, partially rehabilitated in 2004), and Yeghegnadzor (220/110/35 kV, not rehabilitated since commissioning in 1966).</p> <p>- Rehabilitation for Ararat-2, Charentsavan-3 and Zovuni substations started under World Bank-financed Investment Project Financing Projects (ETNIP and ESRP), but was not completed within the IPF period (Ararat-2, Charentsavan-3 and Zovuni) – ESMPs in place for these.</p> <p>Review of the HVEN’s E&amp;S systems in respect to rehabilitation transmission substations planned as part of the transmission grid plan and within the scope of the Program. In line with the Policy for PforR financing, there will be an exclusion of support to any investments that have significant adverse diverse, or unprecedented impacts on the environment and/or people.</p>

Results Indicators	E&S Effects and Risks	Scope of the ESSA
	<p>authorized persons is strictly banned there remain a risk to community health and safety as a result of poor construction site management. The rehabilitation works will take place in the footprint of the substations, as such no land acquisition related impacts are expected and will be verified during preparation. SEA/SH risks, from community worker interactions related to civil works, are considered low.</p> <p>The rehabilitation works of substations will carry a set of environmental effects typical for physical works and upgrading/installing new equipment at substations. Among all environmental impacts, waste management will be the most challenging issue because of the country's under-developed regulatory and infrastructure systems. As a result of substations rehabilitation, hazardous waste will be generated, such as lead batteries, transformer oil, mercury vapor lamps, etc. requiring specific conservation measures. Potential risks and impacts of spills or leaks of used oil and lubricants are anticipated as a result of man-made or natural hazards.</p>	
<p>DLI 3: Improvements in power system planning, operation, and regulation. (Discrete DLI; US\$2m)</p>	<p>10-year network development plan will be developed and Law on Electricity and new Law on Energy Efficiency and Renewable Energy Law will be submitted to Parliament.</p> <p>The main social risks also relate to potential increases in tariffs as a result of inclusion of reactive power pricing into tariff structure.</p>	<p>Feasibility studies would be undertaken for each investment, but not before the plan is finalized. The Law amendments are subject to regulatory impact assessment under the national requirements.</p> <p>Assess opportunity for guidance on sustainable and responsible sourcing and disposal at end of life particular for solar panels.</p> <p>Scope of the ESSA for tariffs is discussed under DLI 5.</p>
<p>DLI 4: Progress toward electricity market liberalization. (Discrete DLI; US\$3m)</p>	<p>Social risks include poor awareness and understanding of private sector and public in general on the ongoing market liberalization reforms.</p>	<p>USAID is already covering awareness raising and communication on market liberalization reforms, any potential gaps in awareness and communication will be monitored and addressed based on close cooperation with USAID.</p>
<p><b>Results Area 2: Enhance the Commercial Viability of the Power Transmission Company</b></p>		

Results Indicators	E&S Effects and Risks	Scope of the ESSA
<p>DLI 5: Increased mobilization of commercial capital for electricity transmission network infrastructure. (Discrete DLI; US\$5m)</p>	<p>The main social risks relate to potential increases in tariffs. While socially disadvantaged groups already benefit from reduced tariffs, any increase could further disproportionately impact them or push other households into this category. The PSRC of the Republic of Armenia is responsible for the setting of regulated tariffs for utilities, including electricity. Socially disadvantaged families are defined, by a Government Decision, based on an insecurity scale calculated in the family insecurity assessment system (also known as the family benefits system). The Decision suggests the Commission consider the socially disadvantaged families as a separate group and set the possible minimal tariffs for them (for the consumption of electricity and gas). The Decision does not define the tariffs and those are calculated and defined by the Commission.</p>	<p>Functioning of the social protection systems to ensure that socially disadvantaged groups are indeed benefitting from reduced tariffs, and systems of capture any emerging socially disadvantaged groups/households so they can benefit.</p>
<p>DLI 6: Progress toward the modernization of HVEN's corporate management systems. (Discrete DLI; US\$2m)</p> <p>DLI 7: Progress toward the modernization of HVEN's corporate governance. (Discrete DLI; US\$4m)</p>	<p>Strengthening of HVEN's corporate governance and corporate management systems have the potential to result in positive E&amp;S outcomes.</p>	<p>Review of the HVEN's Corporate ESMS</p>

### **Annex 3. Summary of Stakeholder Consultations and Workshops on Draft ESSA**

[To be completed following consultations]