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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT PAPER

ON A

PROPOSED SECOND ADDITIONAL LOAN AND RESTRUCTURING

IN THE AMOUNT OF EUR12 MILLION  
(US\$ 14.2 MILLION EQUIVALENT)

TO THE

REPUBLIC OF ALBANIA

FOR A DAM SAFETY PROJECT (PHASE 5)

IN SUPPORT OF THE ENERGY COMMUNITY OF SOUTH EAST EUROPE PROGRAM  
ADAPTABLE PROGRAM LOAN

MAY 3, 2018

Energy & Extractives Global Practice  
Europe And Central Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective {April 17, 2018})

EUR =

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0.808 = US\$1  
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US\$ 1 = SDR 0.686

FISCAL YEAR

January 1 - December 31



ABBREVIATIONS AND ACRONYMS

AlbCOLD	Albania Commission of Large Dam
APL	Adaptable Program Loan
AF	Additional Financing
ECSEE	Energy Community of South East Europe
EMP	Environmental Management Plan
EU	European Union
E&M	Electro-Mechanical
EBRD	European Bank for Reconstruction and Development
FM	Financial Management
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HPP	Hydro Power Plant
IDA	International Development Agency
IBRD	International Bank for Reconstruction and Development
IFRS	International Financial Reporting Standards
ISR	Implementation Status & Results Report
KESH	Albanian Electricity Corporation
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
MOFE	Ministry of Economy and Finance
OSHEE	Operatori i Shperndarjes se Energjise Elektrike (Power Distribution Operator)
PDO	Project Development Objective
PAD	Project Appraisal Document
PMU	Project Management Unit
SECO	State Secretariat for Economic Affairs of Switzerland
SDR	Special Drawing Rights
TA	Technical Assistance

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**BASIC INFORMATION – PARENT (Energy Community of South East Europe APL Program - APL 5 for Albania DAM SAFETY - P110481)**

Country	Product Line	Team Leader(s)		
Albania	IBRD/IDA	Arturo S. Rivera		
Project ID	Financing Instrument	Resp CC	Req CC	Practice Area (Lead)
P110481	Investment Project Financing	GEE03 (9261)	ECCWB (7001)	Energy & Extractives

Implementing Agency: Albanian Power Corporation (KESH)

Is this a regionally tagged project?	
No	

Bank/IFC Collaboration
No

Approval Date	Closing Date	Original Environmental Assessment Category	Current EA Category

30-Jun-2008	30-Jun-2019	Partial Assessment (B)	Partial Assessment (B)
[ ] Situations of Urgent Need or Capacity Constraints		[ ] Financial Intermediaries (FI)	
[ ] Series of Projects (SOP)		[ ] Project-Based Guarantees	

### Development Objective(s)

The development objectives of the project are to: (i) contribute to safeguarding the major hydroelectric dams of Albania; and (ii) improve their operational efficiency and enhance the stability of power supply for the regional electricity market. The proposed project supports the development of the Energy Community in accordance with the objectives of the Energy Community of South Eastern Europe (ECSEE) APL.

The key objectives of the ECSEE Program are to: (a) Create a stable regulatory and market framework to attract investment in gas networks and power systems so that all states in the region have access to the stable and continuous energy supply, essential for economic development and social stability; (b) Establish integrated regional markets in South East Europe, closely linked to the internal energy market of the European Union, and complying with the rules applicable within the European Union; (c) Enhance the energy security of South East Europe and the European Union by providing incentives to connect the Balkans to Caspian and North African gas reserves; and (d) Improve the environmental situation in relation to energy in the region.




### Ratings (from Parent ISR)

	Implementation					Latest ISR
	13-Feb-2015	28-Oct-2015	30-Jun-2016	15-Dec-2016	30-Jun-2017	08-Dec-2017
Progress towards achievement of PDO	MS	MS	MS	MS	MS	S
Overall Implementation Progress (IP)	MS	MS	MU	MS	MS	MS
Overall Safeguards Rating	S	S	S	S	S	S
Overall Risk	M	M	M	M	M	M

**BASIC INFORMATION – ADDITIONAL FINANCING (Second Additional Financing for Energy Community of South East Europe APL Program APL 5 for Albania Dam Safety - P166469)**

Project ID	Project Name	Additional Financing Type	Urgent Need or Capacity Constraints
P166469	Second Additional Financing for Energy Community of South East Europe APL Program APL 5 for Albania Dam Safety	Cost Overrun, Restructuring	No
Financing instrument	Product line	Approval Date	
Investment Project Financing	IBRD/IDA	25-May-2018	
Projected Date of Full Disbursement	Bank/IFC Collaboration		
30-Apr-2021	No		
Is this a regionally tagged project?			
No			
<input type="checkbox"/> Situations of Urgent Need or Capacity Constraints		<input type="checkbox"/> Financial Intermediaries (FI)	
<input type="checkbox"/> Series of Projects (SOP)		<input type="checkbox"/> Project-Based Guarantees	
<input type="checkbox"/> Disbursement-linked Indicators (DLIs)		<input type="checkbox"/> Contingent Emergency Response Component (CERC)	
<input type="checkbox"/> Alternative Procurement Arrangements (APA)			

**Disbursement Summary (from Parent ISR)**

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed
IBRD	21.60	12.69	6.19	 67 %
IDA	35.30	30.75	1.42	 96 %
Grants				 %

**PROJECT FINANCING DATA – ADDITIONAL FINANCING (Second Additional Financing for Energy Community of South East Europe APL Program APL 5 for Albania Dam Safety - P166469)**

## FINANCING DATA (US\$, Millions)

### SUMMARY

<b>Total Project Cost</b>	21.75
<b>Total Financing</b>	21.75
<b>of which IBRD/IDA</b>	14.20
<b>Financing Gap</b>	0.00

### DETAILS

#### World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	14.20
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#### Non-World Bank Group Financing

Other Sources	7.55
European Bank for Reconstruction and Development	7.55

## COMPLIANCE

### Policy

Does the project depart from the CPF in content or in other significant respects?

Yes  No

Does the project require any other Policy waiver(s)?

Yes  No

## INSTITUTIONAL DATA

### Practice Area (Lead)

Energy & Extractives

## Contributing Practice Areas

### Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

### Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

No

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

No

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

No

## PROJECT TEAM

### Bank Staff

Name	Role	Specialization	Unit
Arturo S. Rivera	Team Leader (ADM Responsible)		GEE03
Gazmend Daci	Team Leader		GEE03
Arben Maho	Procurement Specialist (ADM Responsible)		GGOPC
Jonida Myftiu	Financial Management Specialist		GGOEW
Bekim Imeri	Social Safeguards Specialist		GSU03
Dzenan Malovic	Team Member	Hydro specialist	CASEW
Elda Hafizi	Team Member		ECCAL
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Hiromi Yamaguchi	Team Member		GWA06
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<b>Extended Team</b>			
<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Location</b>
Charles A Husband	Consultant	WASHINGTON, DC (IBRD)	

REPUBLIC OF ALBANIA

ADDITIONAL FINANCING TO THE ENERGY COMMUNITY OF SOUTH EAST EUROPE APL PROGRAM FOR  
DAM SAFETY

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## I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

### Introduction

1. This Project Paper seeks the approval of the Executive Directors to restructure the Dam Safety Project (Phase 5) and provide a second Additional Loan in the amount of EURO 12 million (US\$14.2 million equivalent) (AF2). This AF2 would be in addition to the previously approved original Credit of SDR 21.7 million (US\$35.3 million equivalent) (the Original Project) and the first Additional Loan of EURO 15.5 million (US\$21.6 million equivalent) (AF1). The AF2 will be on-lent by the Ministry of Finance and Economy (MOFE) (variously “Borrower” or Government) to the Albania Power Corporation (KESH), the public electricity generation company in Albania.

2. The proposed AF2 will finance cost overruns for investments under the Project to support the completion of two major sub-components: (i) Rehabilitation of the spillways in two Dams of the Drin River Cascade at Fierza, and Komani hydropower plants (HPP); and (ii) Rehabilitation of electromechanical equipment in Komani HPP. The AF2 will also provide Technical Assistance support to continue modernization of the project implementing entity’s dam safety department, supervision’s engineer implementation support, the independent panel of experts’ contract, and implementation of an updated financial management system at the project’s implementing entity.

3. The Original Project (SDR21.7 million Credit) was approved by the Board on June 30, 2008. Subsequently, the AF1 (EUR15.5 million Loan) was approved on December 20, 2011. A project restructuring to extend the Closing Date to June 30, 2019 was approved on December 16, 2016. The Project is part of a larger Dam Safety Program supported by the State Secretariat of Economic Affairs of the Swiss Confederation (SECO Grant - CHF 6.4 million), European Bank for Reconstruction and Development (EBRD Loan Op 43125 - EUR 15.7 million), German Development Bank (KFW Loan No 26946 - EUR 20 million and KFW Grant – EUR 0.32 million), and the Borrower - KESH (EUR 10 million).

4. The Project Development Objectives (PDOs) will remain the same as in the Original Project. This AF2 will also include a project restructuring comprising: modifications to the results framework (RF), an extension of the Closing Date, cancelation of activities under two sub-components, update of components’ costs, and reallocation of amounts under existing categories.

### Background

5. Albania’s internal electricity generation capacity of about 2,100 megawatt (MW) is entirely dependent on hydropower. There are three power plants in the Drin River cascade: Fierza, Komani and Vau Dejes with total installed capacity 1,350 MW, generating about 70 percent of total supply. In an average hydrological year, the Drin Cascade generates about 4 billion kilowatt hours of hydroelectricity. The Mat river cascade has two smaller HPPs, privatized in 2012: Ulez (MW 25.2) and Skkopet (MW 24). At recent market prices of electricity in the region, this represents an annual value of more than US\$240 million, and the asset value of these hydro plants could well be about US\$2.4 billion.

6. The Drin Cascade, plays an important role in the country’s objectives to increase regional power

connectivity, decrease future dependence on thermal power supply and create a Regional Power Market in South Eastern Europe. This role will become more significant as: i) the Montenegro-Italy undersea transmission line starts operations in 2020, thus enabling Albania, and KESH in particular to take advantage of price differentials in the region; ii) the Trans-Adriatic Pipeline becomes operational in 2020 and Albania's power sector subsequently complements its hydro-based system with gas based generation, thus hedging weather volatility and allowing it to better manage the Drin Cascade; and iii) the Albanian Power exchange, and balancing market, become operational in 2019, which would lead to a market pricing system—and associated revenue streams—that would enable the HPPs along the Drin cascade to provide reliable secondary regulation to neighboring countries such as Kosovo, ancillary services, and peak capacity in the regional market. Thus, extension of the operating life over of the three HPPs along the Drin cascade is not only a safety concern, but also a potential revenue management source for the Government in the future.

7. In this context, the Dam Safety Project aims at improving the safety of dams and their performance and availability, extending their project life time over 30 years, and increasing their compliance with environmental and safeguards best practices, thus allowing Albania to reduce their dependence on regional lignite based thermal power imports. The project is also linked to the Bank's overall energy sector support for Albania, which focuses on increasing regional power connectivity and the creation of a regional power market in South Eastern Europe.

#### **Project Progress to Date**

8. Dam safety practices have already significantly improved--as compared with the baseline at the beginning of the project: all Dams on both the Drin and Mat Rivers are equipped with various instruments and monitoring systems; institutional strengthening at KESH is taken place; the risk assessment and Emergency Preparedness Plan were completed and adopted by KESH and the responsible Albanian governmental institutions; and the Dams spillway capacity assessment has been completed. Moreover, by end-April 2018, about 95 percent of the IDA credit and 71 percent of the IBRD loan have been disbursed. Project components being financed by the remaining IDA/IBRD funds are already committed under ongoing contracts and expected to be fully disbursed.

9. Progress on both physical infrastructure investments and TA is as follows:

- The Dam Instrumentation and Monitoring Systems are in operation on both the Drin and Mat Rivers,
- Komani Dam's toe rehabilitation and dredging works for tailrace channel have been completed,
- The Rockfall Damages Protection is fully implemented in all three power plants at Drin river,
- The study on Assessment of Hydro Generation Potential in selected rivers in Albania is completed,
- The Dam Safety Institutional Set-up, Strengthening and Training are completed and in operation,
- The updated Emergency Preparedness Plan is completed and adopted by the responsible Albanian governmental institutions, and
- The prefeasibility and feasibility study for Safe Flood Management in Drin Cascade (part of the integrated water resources approach for the management of the Drin and Mat River basins) is being carried out as scheduled and will be finalized in May 2018.

10. The activities that remain to be completed are described below.

#### **Physical Infrastructure Investments**

- *Komani HPP's Electromechanical rehabilitation (EUR 25.6 million)*. Komani is the second HPP in the Drin Cascade (MW 600). Works under the project include electro-mechanical (E&M) rehabilitation of all four units at Komani HPP. The rehabilitation of the first unit was completed in September 2015, the second unit in February 2017, and the third unit in January 2018. The rehabilitation works on the fourth unit have started and its commissioning is planned by November 2018.
- *Fierza HPP, Komani HPP Spillway Gates and Stoplogs rehabilitation (EUR 15.0 million)*. The Fierza Hydroelectric Power Plant is the first HPP in the Drin River Cascade (MW 510). Lack of bidders' interest in earlier bids, as well as non-responsive bidders, led to three unsuccessful bidding rounds. Following on an assessment by KESH, jointly with its Owner's Engineer, it was proposed to separate the Vau Dejes HPP bid from Fierza and Komani, the latter two requiring more complex civil works. As a result, a responsive bidder for both Fierza and Komani HPPs was selected in October 2017, and the contract is expected to be signed once the AF2 is approved by the Bank. The implementation period is estimated to 24-28 months.
- *Vau-Dejes Spillway Gates rehabilitation and construction of new stoplog (EUR 15.0 million)*. The Vau I Dejes Hydropower Plant is the last hydro power plant in the Drin cascade (MW 258). The works to be carried out include the rehabilitation of the three spillways at Qyrmaq Dam (Power plant site) and two spillways at Zadeja Dam. As part of the rehabilitation works, a new stoplog will be also constructed at Qyrmaq Dam, thus providing safety and flexibility for maintenance.

#### **Technical Assistance**

11. There are four ongoing technical assistance tasks.
- *Owner's Engineer Contract (EUR 5.3 million)*. The owner's engineer (AFConsult) contract is performing satisfactorily. The contract covers infrastructure contracts under implementation and the supervision of the works for Spillway Gates and Stoplogs rehabilitation contract for Komani and Fierza. KfW is hiring a separate team to supervise Vau Dejes Spillway Gates rehabilitation, but under KESH's oversight and in coordination with the existing owner's engineer.
  - *The Panel of Experts (EUR 0.6 million)*. The Dam Safety Panel required under the Bank's OP 4.37 on Safety of Dams was established in the early stages of the project and has been retained during project implementation.
  - *Drin Cascade Safe Flood Management Study (EUR 2.43 million)*. The second phase of "Consulting Services for the prefeasibility and feasibility studies, preparation of tender design and technical specifications for providing safe flood management of the Drin Cascade Hydropower Plants" assignment is near completion. This study has been carried out in coordination with the Albanian Commission on Large Dams and the Dam Safety Panel.
  - *Financial Management and Capacity Building (EUR 0.2 million)*. This is to assist KESH to improve its financial management capacity so that it can develop and maintain financial management systems and reporting in full compliance with International Financial Reporting Standards (IFRS).

#### **Rationale for Additional Financing**

12. The additional financing will cover cost overruns on:

- the ongoing Komani E&M rehabilitation package;
- the Fierza and Komani Spillways and Stoplogs Rehabilitation package recently awarded and to be signed once the additional financing is approved by the Board; and
- TA support to cover: i) the ongoing Owner's Engineer and Panel of Experts contracts for the remaining 2 years, ii) the strengthening of KESH's financial management capacity; iii) support to continue strengthening the project implementing entity's dam safety department; and iv) completion of study to assess an integrated water resources management approach for the management of the Drin and Mat River basins, as well as the optimization of power dispatching and water resources management.

These are all activities included in the original parent project and in the AF1.

13. These cost overruns have been driven by two main factors:

i) First, design changes that led to an expanded scope of work from the Original Project, following the completion of the detailed inception reports for rehabilitation of spillways and E&M equipment, which were completed in April 2010. New issues were also identified at the HPPs following on the January 2010 floods, including, among others:

- the need for full rehabilitation of spillway gate tunnel Nr. 4 at Fierza HPP, while the Feasibility Study included only minor rehabilitation of spillway gate tunnel Nr. 3;
- complete rehabilitation of hydromechanical equipment at Komani HPP, while at the time of preparation of the project it included only the emergency needs of HPP and missing spare parts; and
- full rehabilitation of Vau Dejes HPP, including a stoplog at Qyrmaq Dam, while originally it included only spare parts and maintenance.

This expanded scope of work was included in the AF1 and increased the overall project cost.

ii) Second, higher than anticipated bid prices for Komani's E&M rehabilitation contract (eg. EUR 25.6 million vs EUR 20 million originally budgeted), and subsequent change orders during implementation, leading to an increase in the contract price by 25 percent. Lessons learned from hydro rehabilitation projects in other countries indicate that the full scope of rehabilitation works for HPPs is fully quantified once the units are opened, rehabilitation activities are underway and the main and auxiliary equipment are removed for detailed inspection of its condition.

14. Furthermore, the bid prices offered for the Fierza and Komani Spillways rehabilitation packages came much higher than originally estimated (by about 125 percent). In the case of Albania, this may be derived by contractors' risk aversion to undertake, and provide warranty, on works and equipment for HPPs that have been operating for over 30 years without proper monitoring and maintenance. To mitigate this risk, KESH, jointly with the Owner's Engineer, carried out an underwater investigation at both Fierza and Komani spillways and attached the results to the Bidding documents.

15. Proper completion of the works at both Komani and Fierza is critical to fully operating the existing spillways. Today, Fierza and Komani spillways are operating at about 66 and 57 percent respectively of their design capacity, thus failing to safely evacuate flood waters as originally designed. The completion of the proposed works under the additional financing would allow restoration of their operation to their

design capacity, thus contributing to safeguarding the major HPPs in Albania, and helping prevent a possible catastrophe from a dam failure or overtopping, which could result in significant loss of life and damage to property in downstream areas.

16. Recognizing the need to address safety deficiencies arising from inadequately monitored and maintained HPPs, which have been operating for over 30-40 years, the Original Project—together with KfW, EBRD and SECO--identified measures of very high, high, and medium priority. The additional financing would enable the successful implementation of these measures, such as completion of the rehabilitation of spillways and stoplogs at Fierza and Komani HPPs among others, and the fulfillment of the PDOs.

17. The project remains strategically aligned with the current Country Partnership Framework for Albania covering 2015-19 (Report number 98254, endorsed by the World Bank Group Board of Executive Directors on May 21, 2015), which inter alia aims to “Support enhanced energy security, efficiency and supply”.

## II. DESCRIPTION OF ADDITIONAL FINANCING

18. The proposed additional financing will provide financial support for the completion of: (i) rehabilitation of the spillway gates and stoplogs in two dams of the Drin River Cascade (Fierza and Komani HPPs); and (ii) the E&M rehabilitation of the Komani HPP. On the former, the proposed additional financing is based on the results of the announced bid and contract award to a responsive bidder. The TA component will cover, the continuation of the owner’s engineer contract and independent panel of experts’ contract, implementation of an updated financial management system at KESH, and provision of services to KESH to implement an integrated water resources management approach for the management of the Drin and Mat River basins, as well as the optimization of power dispatching and water resources management.

19. The Table 1 lists the Original Project budget in euro equivalent, the estimated cost at the time of the AF1, funds available to complete the works today and expected final cost—including contingencies—and the financing plan for the AF2, including EBRD co-financing and KfW’s parallel financing.

20. Implementation of the AF2 will be, as it is under the Original Project and AF1, the responsibility of KESH. The Borrower, through its MOFE, shall on-lend the AF2 Loan to KESH for purposes of implementing the Project under the same terms and conditions of the AF2 Loan to Albania.

**Table 1: Financing Plan for Remaining Components (EUR million)**

Components	Original Cost	AF1 Cost	Funds Available	Expected Final Cost	World Bank AF2	EBRD Co-Financing	KfW Parallel Financing
Komani E&M Rehabilitation	7.80	20.22**	32.85	35.47	2.62	0.0	0.0
Komani Spillways Rehabilitation	3.00	3.42	0.0	7.70	1.60	6.10	0.0
Fierza Spillways Rehabilitation	3.00	3.22	0.0	7.30	7.30	0.0	0.0
Vau-Dejes Spillways and Stoplog rehabilitation	1.80	4.00	0.0	15.0	0.0	0.0	15.0
TAs (Project Implementation; Panel Experts, Financial Management and Others)	7.10	7.37	8.43	8.88	0.45	0.0	0.0
<b>Total</b>	<b>22.70</b>	<b>38.22</b>	<b>41.28</b>	<b>74.35</b>	<b>12.00</b>	<b>6.10</b>	<b>15.0</b>

\*\* Bid price euro 25.6 million

### III. KEY RISKS

21. The rating for the overall risk to the project's achievement of the PDO is Moderate. The key risks and mitigating measures during implementation are captured below.

22. **Sector Strategies and Policies is Moderate**, given weather variability that may affect cash available to cover KESH's operating expenses, irregular tariff adjustments, and consistency of payments on electricity invoiced to the Power Distribution Operator, OSHEE. These may all impact the financial sustainability of the project and KESH's overall operations. This risk is being mitigated through constant engagement under the parallel Power Sector Recovery Project which has put in place an escrow account mechanism to ensure timely payments, thus supporting the financial stability of the sector. Moreover, KESH has built-up financial reserves over the last 4 months due to additional electricity sales in the regional power market, derived from high water levels at its dams.

23. **Technical Design Risk is Substantial**, given that refurbishments of the last unit at Komani HPP may require additional technical works, which would be identified just as new information becomes available on the condition of some of the assets, as has been the case with the previous three units. To mitigate this risk, the method of works on the rehabilitation of the last unit incorporates lessons learned from the previous rehabilitation works, including pre-ordering of key spare parts that will need replacement. In the case of civil works at the spillways, new information on the assets' conditions may also be uncovered as rehabilitation works are implemented. To mitigate this risk, the bidder selection criteria had a higher weight on contractors' previous rehabilitation experience on similar structures such as Fierza and Komani's radial spillways. In addition, as experienced in the ongoing works, basic periodic monitoring and tripartite meetings with the contractor, Project Management Unit (PMU) and Bank's team will take place to assess the agreed work implementation plan.

24. **Environmental and Social Risks are Moderate**, given the positive environmental and positive social impacts of the project. There are however exogenous factors, such as heavy floods that could affect project implementation schedule and safety of equipment. The negative environmental impacts are



mainly associated with sand blasting of the runner at the last unit in Komani and asbestos present in the old equipment and infrastructure components, waste to be generated during rehabilitation works, and ensuring on-site workers' and power plant's personnel's health and safety. Those risks have been mitigated by including the Environmental Management Plan (EMP) into the bidding documents and requiring the contractors to fulfill the specified requirements, as has been the case in the ongoing rehabilitation works.

#### **IV. APPRAISAL SUMMARY**

##### **A. Economic and Financial (if applicable) Analysis**

25. The economic analysis was done based on the incremental benefits and costs of the project. The net present value of the Project is EUR16 million at an assumed discount rate of 6 percent, and the estimated internal rate of return is 8.4 percent. This differs from the Original Project estimates as revised in 2011, where the net present value was EUR34.1 million at a 12 percent discount rate and the internal rate of return was 39 percent. The difference arises primarily from three factors, which include delays in implementation and increased project costs; increase in scope; and limiting optimization benefits to only those arising from the incremental increase in generation. With the added benefits of positive externalities and the reduced risk of catastrophic failure, the project returns are positive and therefore remains economically justified. Excluding the net environmental benefits reduces the present value to negative EUR15.2 million at a 6 percent discount rate and the internal rate of return to 3.0 percent respectively.

26. The proposed additional financing will contribute to both climate change mitigation and adaptation co-benefits. Annual average temperatures are expected to increase and the greatest temperature increases are expected to occur in summer months. Although total precipitation is expected to decrease, an increase of intensive rain episodes is likely. Such increased frequency and intensity of precipitation has been realized as climate vulnerability and the project has been designed to address such disaster. Higher temperatures in summer increase the demand at the same time that hydropower production is most constrained by reduced rainfall. To address reduction in river flows, the project will improve energy efficiency by reducing leakages. The investments include works to rehabilitate and ensure the proper functioning of spillways, installation of safety alarm systems for flood warning and geodetic monitoring, rehabilitation of electromechanical equipment, instrumentation and monitoring equipment, by which the efficiency of water use in energy generation will be improved.

27. The project will also contribute to climate benefits, including:

- a. energy efficiency, by reducing water leakages and rehabilitation of electro-mechanical equipment (baseline: 0GWh to end target: 11GWh) and by improvement of reservoir optimization procedures (baseline: 0GWh to end target: 20GWh). It will also address the lack of maintenance and institutional weakening by providing TA of hydrology analysis and water management, which will incorporate assessment of climate change in terms of hydrological profiles;
- b. the project will also offer significant global economic benefits in the form of expanded

lifetime of plant through the rehabilitation of existing dams which, and reduced annual greenhouse gas (GHG) emissions of 49 million tons Co2 related to the efficiency gains. Without the project, the energy shortage would lead to additional imports of lignite based regional power in the region, which would cause an increase in GHG emissions; and

- c. enabling integration of private investments into Renewable Energy sources such as wind and solar/storage energy in the future, by providing ancillary services such as secondary regulation to intermittent renewable sources.

28. The AF2 will lead to the same benefits as identified in the original Project Appraisal Document (PAD), which are:

- a. Improvement of dam safety,
- b. Improved efficiency of dam operation, and
- c. Further integration within the regional electricity market.

29. Together with KESH, the Bank team updated the financial projections for the company. These projections, based on the expected results of 2017 and revised assumptions set out in KESH's 2018 business plan, show that KESH will continue to comply with the agreed financial covenants. It also shows that third-party lenders, creditors and other financial interests are well secured by an asset base that is large compared to the revised size of this project, a prudent financial structure with debt of less than 60 percent of total capitalization, and a debt service ratio in excess of 1.6 times over the medium- to long-term.

## **B. Technical**

30. The proposed AF2 was appraised in October 2017. KESH presented the status of financing support to the Dam Safety program to be provided by other international financial institutions. The Bank team visited the sites of the proposed additional financing infrastructure rehabilitation at Fierza and Komani HPPs. The Bank team found the proposed investments technically and economically justified and the proposed implementation schedule realistic.

31. The proposed AF2 will cover cost overruns incurred on the Dam Safety infrastructure investments component. This has been particularly the case at the Komani HPP E&M rehabilitation works, where lack of proper maintenance and rehabilitation procedures after 30 years of operation led to a serious deterioration of the HPP. The full extent of the needed work has been confirmed as the units have been dewatered and dismantling reports have been made available and reviewed by KESH, jointly with the Owner's Engineer (AFconsult).

32. The cost estimates on the spillways and stoplogs rehabilitation at Fierza and Komani HPPs have been revised upward reflecting the results of the recent bid offers.

## **C. Financial Management**

33. The project's financial management (FM) arrangements continue to be rated as moderately satisfactory due to the recurring deficiencies reported in KESH's audit reports and management letters.

These deficiencies are expected to be addressed through the TA support to be provided through the additional financing. However, KESH has maintained an acceptable level of other elements of FM which are directly related to the project operations and audit opinions on the project financial statements over the years have been unmodified.

#### **D. Procurement**

34. Regarding procurement, the Bank has agreed that KESH will continue to use the Procurement/Consultants Guidelines for this AF2 as was the case for the Original and AF1, taking into consideration that: (i) the additional amount of Euro 12 million will be used to finance the cost overrun for activities already procured under the Original Credit (IDA-44800), and (ii) there will be no new procurement activities under the additional financing. Regarding procurement of the TA for KESH's FM with an estimated cost of EUR200,000 (following the Consultants Qualifications procurement procedures), the Bank has cleared the Terms of Reference, and the selection process is expected to be completed/contract signed by the end June 2018.

#### **E. Social (including Safeguards)**

35. Given that the investments in the selected hydropower plants are in areas scarcely populated, there has been, and will be, very little or no interaction with the communities. Nevertheless, the project has established a Grievance Redress Mechanism (GRM), with procedures set out in the Project Operations Manual. The GRM is open to all citizens and accepts feedback on any issue or concern. It is supported by a hotline (phone and email) as well as the formal channel of accepting complaints in writing. Information about the communication channels is made available at project sites and in neighboring communities. A staff member in the implementing agency is assigned to receive feedback/complaints and to facilitate a process by which the feedback is addressed and receives any necessary follow up. Logbooks are kept registering the feedback and actions taken. With this AF2, an indicator has been added to the RF to track complaints received and the PMU's responsiveness.

#### **F. Environment (including Safeguards)**

36. The environmental assessment category remains unchanged: Category B, no new safeguard policies are triggered. Safeguard policies triggered by the Original and AF1 are Environmental Assessment - OP 4.01; Safety of Dams - OP 4.37; and Projects on International Waterways - OP 7.50. Exception to the Notification Requirement under OP 7.50 (Projects on International Waterways) paragraph 7(a) has been requested and approved by the Bank Management as part of the Original Project in 2008 and, under the AF1, an update memo has been issued to the Bank Management. Safety of Dams (OP 4.37) is in compliance by the establishment of the Panel of Dam Safety Experts, preparation and adoption of an Emergency Preparedness Plan and annual preparation of operation and management reports.

37. KESH has prepared three separate environmental impact assessment reports including an EMP specifying how the impacts during works will be managed. The PMU has appointed a staff member responsible for overseeing the implementation of safeguards policies. Since no new land will be acquired during project implementation, there is no need to prepare a Resettlement Action Plan.

38. This AF2 was screened for climate and disaster risks. The geophysical risk of earthquakes and landslides was found to be medium in the Shkodra and Fierza regions of Albania, where the HPPs are located. This means that there is a 10 percent chance of potentially damaging earthquakes in the next fifty years. Based on this information, the impact of earthquakes should be considered in all phases of the project, in particular during design and construction. The risk of river or urban flooding is rated high. This means that potentially damaging and life-threatening urban floods are expected to occur at least once in the next ten years in this region. The project design already includes evaluation of risks during design, construction and implementation, such as reinforcement of the water intake at Fierza and rehabilitation of spillways to allow them safe evacuation of waters during floods.

## V. WORLD BANK GRIEVANCE REDRESS

39. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the World Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaints to the World Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of non-compliance with World Bank policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and the Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate GRS, please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org)

## VI. PROPOSED CHANGES

### Summary of Changes

40. The PDOs will remain the same as in the Original Project. This AF2 will also include a project restructuring comprising: modifications to the RF; an extension of the Closing Date; cancelation of activities under two sub-components; update of components' costs; and reallocation of amounts under existing categories.

### Change in Results Framework

41. The RF will be updated. On the PDO indicator, "Regional Market Liberalization", the end target value has been modified from reporting percentage of consumers deregulated to the "The Albanian Power Exchange to be Functional and Operational." This is consistent with the Regional Western Balkans Berlin Agreement, of which Albania is a signatory to establish a day ahead market/Power Exchange as a metric for market liberalization.

42. The two PDO indicators, "*Electricity output due to reduced water leakages and electro-mechanical*

*equipment rehabilitation*”, and *“Electricity output due to improved reservoir optimization procedures”* will be merged to one PDO indicator, *“Improve the dams’ operational efficiency”*. The indicator tracks one of the objectives, which is to improve the overall operational efficiency of the power plants. This PDO indicator is measured by the following criteria: (i) increase the availability of generation units (rehabilitation and maintenance); (ii) eliminate the water leakages at the generation units, spillway tunnels and other hydro power plant facilities; and (iii) establish, adopt and use the customized criterion to operate the power plants and/or hydro cascades in an optimal manner based on the operation objective. The PDO indicator, *“total safeguarded dams and generation capacity”* is changed to *“safeguarded dams and generation capacities”* and its baseline and end target value will be expressed by text.

43. A new citizen engagement intermediate indicator, *“percentage of grievance received and addressed within agreed timeframe”* will be added since the project has established a GRM. It will monitor the progress on how the project related complaints and feedback from all citizens are addressed (detailed information of the project GRM is shown under E. Social).

#### **Change in Components and Costs**

44. No additional activities are proposed. The project components remain the same as originally itemized. The Physical Infrastructure Investment component remains the same but the costs have increased compared with the Original Project. EBRD is co-financing the Komani spillways rehabilitation works (EUR 6.1 million), and the AF2 will provide Euro 1.6 million for it. KfW is providing parallel financing for the Vau-Dejes spillways rehabilitation (KfW financing EUR 15 million).

45. The technical assistance component remains the same except for one activity which is proposed to be dropped (the TA for Detailed Study and procurement assistance for construction of Skavica HPP on the Drin River upstream and the study is being undertaken by EBRD). No significant cost increase is expected for the activities under the TA Component.

#### **Loan Closing Date**

46. In order to align the Project’s Closing Date with the length of the contract execution for Fierza and Komani HPP Spillways and stoplogs rehabilitation (24-28 months), the Project Closing Date will be December 31, 2020.

#### **Cancelation of Activities**

47. The cancelation of two sub-components included in the Original Project:

- the spillway gates rehabilitation and construction of new stoplog in Vau Dejes HPP, which will be parallel financed by KfW through an already approved loan of EUR15 million, and
- the TA for detailed study and procurement assistance for construction of Skavica HPP on the Drin River upstream. This study is being undertaken by EBRD under a EUR1.5 million Western Balkan Infrastructure Framework grant.

#### **Disbursement Categories**

48. The amounts under existing categories will be reallocated to reflect the needs of the remaining works and TA components. The three categories are: Category 1 - goods, works and consulting services for the rehabilitation of the Fierza hydro power plant spillway gates and stoplogs, and TA; and Category 2 - Goods and works for the rehabilitation of the Komani hydro power plant spillway gates and stoplogs, which will be co-financed with EBRD. Category 3 covers front-end fee. Due to the cancellation of the TA for Detailed Study and procurement assistance for construction of Skavica HPP on the Drin River upstream, remaining funds under Category 3 will be reallocated to cover the supervision/owner's engineer contract under the proposed Category 1. The funds initially allocated to Vau Dejes have been reallocated to cover the ongoing Komani's E&M rehabilitation.

#### Expected Disbursements (in US\$, millions)

Fiscal Year	2018	2019	2020	2021
Annual	10.14	11.00	10.00	6.15
Cumulative	43.23	54.23	64.23	70.38

#### Change in Implementation Schedule

49. Works on E&M Rehabilitation of the four units at Komani HPP are on track. Two of the units have since been commissioned and the third unit was recommissioned in January 2018. The rehabilitation works on the fourth unit have started and its commissioning is planned by November 2018.

50. Fierza HPP and Komani HPP spillway gates and stoplogs contract will be implemented in 24-28 months. If the contract is effective by June 2018, the completion is expected in November 2020. Thus, the project closing date will be December 31, 2020.

## VII. SUMMARY TABLE OF CHANGES

	Changed	Not Changed
Change in Results Framework	✓	
Change in Components and Cost	✓	
Change in Loan Closing Date(s)	✓	
Reallocation between Disbursement Categories	✓	
Change in Safeguard Policies Triggered	✓	
Change in Implementing Agency		✓



Change in Project's Development Objectives		✓
Cancellations Proposed		✓
Change in Disbursements Arrangements		✓
Change of EA category		✓
Change in Legal Covenants		✓
Change in Institutional Arrangements		✓
Change in Financial Management		✓
Change in Procurement		✓
Other Change(s)		✓

**VIII. DETAILED CHANGE(S)**

**RESULTS FRAMEWORK**

**Project Development Objective Indicators**

Regional Market Liberalization				
Unit of Measure: Text				
Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	0.00	8% in Albania:  Ten customers connected in HV are eligible; the annual consumption GWh 650 is expected in 2017. Next year other MV customers (connected in 35 kV and 20 kV) will be in deregulated market together with Hydro IPPs. The new Power Law is in force and the new market	The Albanian Power Exchange to be Functional and Operational	Revised



		structure is going to be established. The Albanian Power exchange and Albanian Balancing Market are expected to be established by the end of 2018.		
Date	10-Mar-2011	05-Dec-2017	31-Dec-2020	
Safeguarded dams and generation capacities				
Unit of Measure: Text				
Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	Safeguard measures are not functional	60% of Albania’s hydropower capacity affected by safeguards measures. The dam geological, seismic and geodetic monitoring systems are functional. KESh and Albanian institution are adopting the recommendations of “Strengthening of the Institution set-up of Dam Safety and Emergency Preparedness” study. Rehabilitation works in Komani HPP are progressing. Two units (UNIT#2 and UNIT#3) were re-commissioned respectively in Oct. 2015 and Feb 2017. The third unit (UNIT#1) will be re-commissioned by the end of Feb 2018. The Bid Evaluation	Safeguard remedies are implemented at Drin and Mat Rivers Cascades	Revised





<p>Report (BER) is finalized and contract award for the Fierza and Komani's Spillways Rehabilitation package is issued. The contract is expected to be effective in February 2018. The team is working on AF preparation. The Rockfall danger protection is COMPLETED in all three Dams; The Komani dam rehabilitation works are COMPLETED on July 2016.</p>				
Date	19-May-2008	05-Dec-2017	31-Dec-2020	
<p>Increased Electricity output due to reduced water leakages and electro-mechanical equipment rehabilitation.  Unit of Measure: Text  Indicator Type: Custom</p>				
	Baseline	Actual (Current)	End Target	Action
Value	0.00	<p>5 GWh - Electricity Output increased by the end of 2017 due to reduced water leakages and electromechanical equipment rehabilitation. Two units are rehabilitated in Komani HPP. It is expected that by the end of 2017 to have 5 GWh gained due to elimination of the water leakages in rehabilitated units.</p> <p>The hydrology was not good in 2017 and the Drin Cascade production was significantly low.</p>	11.00	Marked for Deletion



Date	19-May-2008	05-Dec-2017	30-Jun-2019	
Improve the dams' operation efficiency Unit of Measure: Gigawatt-hour (GWh) Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	0.00	5.00	31.00	Revised
Date	19-May-2008	05-Dec-2017	31-Dec-2020	

**Intermediate Indicators**

The rehabilitated spillways are tested and functional for very high priority investments. Unit of Measure: Text Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	Feasibility Study (FS) completed	<p>The final BER for Spillway Gates Rehabilitation is finalized on October 2017 and the contract award for both lots (for Komani and Fierza HPPs) is issued. The contract will be signed in December 2017</p> <p>The AF will be provided to cover partially the spillway packages; the contract will be co-financed with EBRD which is committed to use the remained amount in its loan.</p> <p>The rehabilitation works are rescheduled; Two units (UNIT#2 and UNIT#3) were re-commissioned respectively in Oct. 2015 and Feb 2017. The third</p>	Rehabilitation tested and completed.	Revised



unit (UNIT#1) is in reassembling phase and the re-commissioning is programed in Feb 2018. The last unit (UNIT#4) will be rehabilitated and re-commissioned by the end of 2018.

The Komani dam rehabilitation works are COMPLETED on July 2016.

Date	10-Mar-2011	05-Dec-2017	31-Dec-2020
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High priority remedial measures completed.

Unit of Measure: Text

Indicator Type: Custom

Baseline

Actual (Current)

End Target

Action

Value

FS completed

The Dam Monitoring Systems are COMPLETED.

The additional instruments and other facilities will be provided by SECO; the underwater inspection to verify the water leakages in Komani Dam, is ongoing.

TA contract is COMPLETED. The Albanian responsible institutions are adopting recommendations.

The prefeasibility study is completed. The

Rehabilitation completed

Revised



Feasibility study for additional spillways in Fierza and Komani is ongoing.

The financial Agreement (Euro 20 million) between kFW and GoA is signed on June 30, 2015. There are two components (i) rehabilitation of VDeja spillway gates and new stop-log and (ii) dam observation and controlling system for the cascade.

Date 10-Mar-2011 05-Dec-2017 31-Dec-2020

Remedial measures of medium priority and operational improvements completed.

Unit of Measure: Text

Indicator Type: Custom

Baseline Actual (Current) End Target Action

Value	FS completed	(i). The Rock-fall protection in Fierza HPP and Komani HPP are COMPLETED The rockfall danger protection and rockfall stochastic modeling are completed in all Drin Cascade Dams  (ii). The internal organization is completed. The new dam safety department is established. The operational improvements are going	Remedial measures and operational improvements completed.	Revised
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<p>on. The Internal Operation improvements are partially Completed. KESH is adopting the “Strengthening of the Institution set-up of Dam Safety and Emergency Preparedness” study recommendations.</p> <p>(iii).Drin river operation optimization (WBG finances) - COMPLETED The study presents the results of the simulation of the Albanian system in order to optimize the utilization of hydro resources.</p>				
Date	10-Mar-2011	05-Dec-2017	31-Dec-2020	
<p>Safety of Dams Expert Panel Unit of Measure: Text Indicator Type: Custom</p>				
	Baseline	Actual (Current)	End Target	Action
Value	Terms of reference drafted	The Expert Panel is fully operative; the individual contracts are extended until June 2019	Panel in full operation.	Revised
Date	10-Mar-2011	05-Dec-2017	30-Jun-2019	
<p>Hydrology analysis and water management Unit of Measure: Text Indicator Type: Custom</p>				
	Baseline	Actual (Current)	End Target	Action
Value	Planning stag	Completed	The system is completed and functional	New



Date	10-Mar-2011	31-Dec-2017	30-Jun-2019	
<b>Emergency preparedness plan</b>				
Unit of Measure: Text				
Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	Planning stage	Completed	Continuation	New
Date	10-Mar-2011	31-Dec-2015	30-Jun-2019	
<b>Strengthen the capacities of KESH’s dam safety department and AlbCOLD</b>				
Unit of Measure: Text				
Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	Planning stage	Completed	Completion	New
Date	10-Mar-2011	31-Dec-2015	30-Jun-2019	
<b>Prepare a new structure and organization for KESH Generation</b>				
Unit of Measure: Text				
Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	Planning stage	Completed	Implementation	New
Date	10-Mar-2011	31-Dec-2015	30-Jun-2019	
<b>Financial management capacity building</b>				
Unit of Measure: Text				
Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	Planning stage	There is no Progress. The FM will be tendered in 2017.	KESH’s annual financial statements are prepared in full compliance with IFRS	New
Date	10-Mar-2011	05-Dec-2017	31-Dec-2020	
<b>Percentage of grievance received and addresses within agreed timeframe</b>				
Unit of Measure: Percentage				
Indicator Type: Custom				



	Baseline	Actual (Current)	End Target	Action
Value	0.00	0.00	95.00	New
Date	31-Jan-2018	05-Dec-2017	31-Dec-2020	

**COMPONENTS**

Current Component Name	Current Cost (US\$, millions)	Action	Proposed Component Name	Proposed Cost (US\$, millions)
Physical infrastructure investments	42.00	Revised	Physical infrastructure investments	54.81
Technical Assistance and Training	9.23	Revised	Technical Assistance and Training	10.98
<b>TOTAL</b>	<b>51.23</b>			<b>65.79</b>

**LOAN CLOSING DATE(S)**

Ln/Cr/Tf	Status	Original Closing	Current Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IBRD-81110	Effective	30-Dec-2016	30-Jun-2019	31-Dec-2020	30-Apr-2021
IDA-44800	Effective	31-Dec-2013	30-Jun-2019	31-Dec-2020	30-Apr-2021

**REALLOCATION BETWEEN DISBURSEMENT CATEGORIES**

Current Allocation	Actuals + Committed	Proposed Allocation	Financing % (Type Total)	
			Current	Proposed

IBRD-81110-001 | Currency: EUR

iLap Category Sequence No: 1		Current Expenditure Category: GOODS AND WORKS			
15,000,000.00	14,969,548.30	15,461,250.00	100.00	100.00	
iLap Category Sequence No: 2		Current Expenditure Category: HYDRP DEVL., WATER MGM CS- 2.1,2.4			
0.00	0.00	0.00	100.00	100.00	
iLap Category Sequence No: 4		Current Expenditure Category: UNALLOCATED			



	461,250.00	0.00	0.00		
<b>Total</b>	<b>15,461,250.00</b>	<b>14,969,548.30</b>	<b>15,461,250.00</b>		
IDA-44800-001   Currency: XDR					
iLap Category Sequence No: 1		Current Expenditure Category: GOODS AND WORKS			
	14,550,000.00	14,534,977.80	14,550,000.00	100.00	100.00
iLap Category Sequence No: 2		Current Expenditure Category: CS, TR FOR OTHER THAN PTS 2.1, 2.4			
	4,700,000.00	4,110,277.31	5,000,000.00	100.00	100.00
iLap Category Sequence No: 3		Current Expenditure Category: HYDRP DEVL., WATER MGM CS- 2.1,2.4			
	2,450,000.00	1,875,840.87	2,150,000.00	100.00	100.00
<b>Total</b>	<b>21,700,000.00</b>	<b>20,521,095.98</b>	<b>21,700,000.00</b>		

**Expected Disbursements (in US\$, millions)**

Fiscal Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Annual	0.00	0.13	1.47	0.73	0.89	3.62	10.62	5.24	5.86	4.52
Cumulative	0.00	0.13	1.61	2.33	3.22	6.84	17.46	22.71	28.57	33.09

**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

Risk Category	Latest ISR Rating	Current Rating
Political and Governance	● Low	● Low
Macroeconomic	● Low	● Low
Sector Strategies and Policies	● Low	● Moderate
Technical Design of Project or Program	● Low	● Substantial
Institutional Capacity for Implementation and Sustainability	● Moderate	● Low





Fiduciary	● Moderate	● Low
Environment and Social	● Low	● Moderate
Stakeholders	● Low	● Low
Other		
Overall	● Moderate	● Moderate

**COMPLIANCE**

**Change in Safeguard Policies Triggered**

Yes

Safeguard Policies Triggered	Current	Proposed
Environmental Assessment OP/BP 4.01	Yes	Yes
Performance Standards for Private Sector Activities OP/BP 4.03	No	No
Natural Habitats OP/BP 4.04	No	No
Forests OP/BP 4.36	No	No
Pest Management OP 4.09	No	No
Physical Cultural Resources OP/BP 4.11	No	No
Indigenous Peoples OP/BP 4.10	No	No
Involuntary Resettlement OP/BP 4.12	No	No
Safety of Dams OP/BP 4.37	Yes	Yes
Projects on International Waterways OP/BP 7.50	Yes	Yes
Projects in Disputed Areas OP/BP 7.60	No	No



**LEGAL COVENANTS – Second Additional Financing for Energy Community of South East Europe APL Program APL 5 for Albania Dam Safety (P166469)**

**Sections and Description**

To facilitate the carrying out of the Project, the Borrower shall make the proceeds of the Loan available to the Project Implementing Entity under a subsidiary agreement between the Borrower and the Project Implementing Entity (“Subsidiary Agreement”), under terms and conditions approved by the Bank.

The Borrower shall exercise its rights under the Subsidiary Agreement in such manner as to protect the interests of the Borrower and the Bank and to accomplish the purposes of the Loan. Except as the Bank shall otherwise agree, the Borrower shall not assign, amend, abrogate or waive the Subsidiary Agreement or any of its provisions.

The Borrower, through the Ministry of Infrastructure and Energy, shall cause the Project Implementing Entity to: carry out the Project in accordance with the Environmental Management Plan which the Borrower shall not amend, suspend, abrogate, repeal or waive any provision thereof without prior approval of the Bank; and ensure that all technical assistance under the Project shall only be undertaken pursuant to terms of reference reviewed and found satisfactory by the Bank, such terms of reference to ensure that the technical assistance takes into account, and calls for application of the Bank’s Safeguard Policies.

**Conditions**

Type	Description
Effectiveness	The Subsidiary Agreement has been executed on behalf of the Borrower and the Project Implementing Entity.
Effectiveness	The Co-Financing Agreement has been declared effective.



## IX. RESULTS FRAMEWORK AND MONITORING

### Results Framework

COUNTRY : Albania

Second Additional Financing for Energy Community of South East Europe APL Program APL 5 for Albania Dam Safety

#### Project Development Objectives

The development objectives of the project are to: (i) contribute to safeguarding the major hydroelectric dams of Albania; and (ii) improve their operational efficiency and enhance the stability of power supply for the regional electricity market. The proposed project supports the development of the Energy Community in accordance with the objectives of the Energy Community of South Eastern Europe (ECSEE) APL.

The key objectives of the ECSEE Program are to: (a) Create a stable regulatory and market framework to attract investment in gas networks and power systems so that all states in the region have access to the stable and continuous energy supply, essential for economic development and social stability; (b) Establish integrated regional markets in South East Europe, closely linked to the internal energy market of the European Union, and complying with the rules applicable within the European Union; (c) Enhance the energy security of South East Europe and the European Union by providing incentives to connect the Balkans to Caspian and North African gas reserves; and (d) Improve the environmental situation in relation to energy in the region.

#### Project Development Objective Indicators

Action	Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Revised	Name: Regional Market Liberalization		Text	0.00	The Albanian Power Exchange to be Functional and			

					Operational			
<p><b>Description:</b> The key objectives of the ECSEE Program are to: (a) create a stable regulatory and market framework to attract investment in power systems and gas sector and so that all states in the region have access to the stable and continuous energy supply, essential for economic development and social stability. On the power sector, the establishment of country market will contribute to the regional market.</p>								
Revised	<b>Name:</b> Safeguarded dams and generation capacities		Text	Safeguard measures are not functional	Safeguard remedies are implemented at Drin and Mat Rivers Cascades			
<p><b>Description:</b> The objective is to have in place and operational the following safeguard measures and remedies including those with very high priority, high priority and medium priority at Drin and Mat Rivers Cascades: (i) full availability of existing spillway capacities secured; (ii) instruments for dam monitoring in place; (iii) safe flood management operational; (iv) risk analyses and emergency preparedness plan adopted by utility and GoA institutions; (v) Dam Safety Department capacity built to face the dam safety issues; and (vi) during the project be assisted by Dam Safety Panel of Experts.</p>								
Revised	<b>Name:</b> Improve the dams' operation efficiency		Gigawatt-hour (GWh)	0.00	31.00			
<p><b>Description:</b> The objective is to improve the overall operation efficiency of the power plants. The main measures are: (i) increase the operation availability of generation units (rehabilitation and maintenance) ; (ii) eliminate the water leakages at the generation units, spillway tunnels and other hydro power plant facilities; and (iii) establish, adopt and use the customized criterion to operate the power plants and/or hydro cascades in optimal manner based on the operation objective.</p>								

**Intermediate Results Indicators**

Action	Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Revised	<b>Name:</b> The rehabilitated spillways are tested and functional for very high priority investments.		Text	Feasibility Study (FS) completed	Rehabilitation tested and completed	Quarterly	Project Reports, Monitoring by PMU	PMU
<p><b>Description:</b> The objective is to complete the very high priority dam safety measures and to have the existing spillway capacities in three power plant in Drin River Cascade, operational. This includes the Rehabilitation of spillway gates and stoplogs in tunnel #3 and #4 in Fierza Dam; the rehabilitation of spillway gates and stoplogs in tunnel #3 and #4 in Komani Dam.</p>								
Revised	<b>Name:</b> High priority remedial measures completed.		Text	FS completed	Rehabilitation completed	Quarterly	Project Reports, Monitoring by PMU	PMU
<p><b>Description:</b> The objective is to complete the following dam safety measures: (i) the rehabilitation of Electromechanical equipment in Komani HPP; (ii) Dams' Instruments and Monitoring System; (iii) the rehabilitation of Komani Dam Toe, consolidation of scour area and dredging works for tailrace channel; (iv) the hydrology analysis and safe flood management and to provide the results, recommendations and investments for new spillway capacity in three Dams.</p>								
Revised	<b>Name:</b> Remedial measures of medium priority and operational improvements completed.		Text	FS completed	Remedial measures and operational improvements	Quarterly	Project Reports, Monitoring by PMU	PMU

					ents completed			
<p>Description: The objective is to complete the following dam safety measures: (i) the risk analysis and prepare and adopt the emergency preparedness plan; (ii) a new structure and organization of KESH Generation; (iii) Strengthening the KESH's Dam Safety Department and Alb-COLD; (iv) Improve the Dam Safety procedures and internal operations; (v) implementation of Rockfall Protection at three Dams in Drin River Cascade and (vi) installation of the monitoring and alarm system (SCADA) and build capacity to use them.</p>								
Revised	<b>Name:</b> Safety of Dams Expert Panel		Text	Terms of reference drafted	Panel in full operation.	Quarterly	Project Reports,  Monitoring by PMU	PMU
Description:								
New	<b>Name:</b> Hydrology analysis and water management		Text	Planning stag	The system is completed and functional	Quarterly	Project Reports,  Monitoring by PMU	PMU
Description:								
New	<b>Name:</b> Emergency preparedness plan		Text	Planning stage	Continuati on			
Description:								
New	<b>Name:</b> Strengthen the capacities of KESH's dam safety department and		Text	Planning stage	Completi on	Quarterly	Project Reports.  Monitoring by PMU	PMU

	AlbCOLD							
Description:								
New	<b>Name:</b> Prepare a new structure and organization for KESH Generation		Text	Planning stage	Implementation	Quarterly	Project Reports,  Monitoring by PMU	PMU
Description:								
New	<b>Name:</b> Financial management capacity building		Text	Planning stage	KESH's annual financial statements are prepared in full compliance with IFRS	Annually	Audit report and audited financial statements of KESH	PMU
Description:								
New	<b>Name:</b> Percentage of grievance received and addresses within agreed timeframe		Percentage	0.00	95.00	Quarterly	Project Reports,  Monitoring by PMU	PMU
Description:								

### Target Values

#### Project Development Objective Indicators

Action	Indicator Name	Baseline	End Target
Revised	Regional Market Liberalization	0.00	The Albanian Power Exchange to be Functional and Operational
Revised	Safeguarded dams and generation capacities	Safeguard measures are not functional	Safeguard remedies are implemented at Drin and Mat Rivers Cascades
Revised	Improve the dams' operation efficiency	0.00	31.00

#### Intermediate Results Indicators

Action	Indicator Name	Baseline	End Target
Revised	The rehabilitated spillways are tested and functional for very high priority investments.	Feasibility Study (FS) completed	Rehabilitation tested and completed.
Revised	High priority remedial measures completed.	FS completed	Rehabilitation completed
Revised	Remedial measures of medium priority and operational improvements completed.	FS completed	Remedial measures and operational improvements completed.
Revised	Safety of Dams Expert Panel	Terms of reference drafted	Panel in full operation.



New	Hydrology analysis and water management	Planning stag	The system is completed and functional
New	Emergency preparedness plan	Planning stage	Continuation
New	Strengthen the capacities of KESH's dam safety department and AlbCOLD	Planning stage	Completion
New	Prepare a new structure and organization for KESH Generation	Planning stage	Implementation
New	Financial management capacity building	Planning stage	KESH's annual financial statements are prepared in full compliance with IFRS
New	Percentage of grievance received and addresses within agreed timeframe	0.00	95.00