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Report No: PAD754

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF (SDRXX/EURXX/OTHER)
(US$ 32.50 MILLION EQUIVALENT)

TO THE

REPUBLIC OF KOSOVO

FOR AN

ENERGY EFFICIENCY AND RENEWABLE ENERGY PROJECT

{RVP/CD CLEARANCE DATE - SAME AS ON MOP}

Sustainable Development Department
South East Europe Country Unit
Europe and Central Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective – March 18, 2014)

Currency Unit	=	Euro
€0.7192	=	US$1
US$1.55276	=	SDR 1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

CG	Coordination Group	KEDS	Kosovo Electricity Distribution and Supply Company
CoO	Certificates of origin	KEEA	Kosovo Energy Efficiency Agency
CPS	Country partnership strategy	KEK	*Korporata Energjietika e Kosovës* (Kosovo Energy Corporation)
DH	District heating	KfW	Kreditanstalt für Wiederaufbau
EBRD	European Bank for Reconstruction and Development	kWh	Kilowatt-hour
EC	European Commission	MED	Ministry of Economic Development
EE	Energy efficiency	MESP	Ministry of Environment and Spatial Planning
EIRR	Economic internal rate of return	MTEF	Medium-term expenditure framework
EMF	Environmental management framework	MW	Megawatt
EPBD	Energy Performance in Buildings Directive (EU)	NEEAP	National Energy Efficiency Action Plan
ERO	Energy Regulatory Office	NREAP	National Renewable Energy Action Plan
ESCO	Energy service company	OM	Operations manual
EU	European Union	PIU	Project implementation unit
FIRR	Financial internal rate of return	PV	Photovoltaic (solar)
FiT	Feed-in tariff	RE	Renewable energy
GHG	Greenhouse gas	SWH	Solar water heating
GiZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	TA	Technical assistance
GOK	Government of Kosovo	UNDP	United Nations Development Program
GWh	Gigawatt-hour	UNFCCC	United Nations Framework Convention on Climate Change
HOA	Homeowner association	USAID	United States Agency for International Development
IFR	Interim unaudited financial report	WBIF	Western Balkans Investment Framework

Regional Vice President:	Laura Tuck
Country Director:	Ellen A. Goldstein
Sector Director:	Laszlo Lovei
Sector Manager:	Ranjit J. Lamech
Task Team Leader:	Jasneet Singh

KOSOVO
Energy Efficiency and Renewable Energy Project

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PAD DATA SHEET

Kosovo Energy Efficiency and Renewable Energy Project (P143055)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

ECSEG

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Basic Information			
Project ID: P143055	EA Category B - Partial Assessment	Team Leader Jasneet Singh	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]		
Project Implementation Start Date 30-Sept-2014	Project Implementation End Date 31-Dec-2018		
Expected Effectiveness Date 30-Sept-2014	Expected Closing Date 28-Jun-2019		
Joint IFC No			
Sector Manager Ranjit J. Lamech	Sector Director Laszlo Lovei	Country Director Ellen A. Goldstein	Regional Vice President Laura Tuck
.			
Borrower: Republic of Kosovo			
Responsible Agency: Kosovo Energy Efficiency Agency			
Contact: Bedri Dragusha Telephone No.: +381(0)38 200 215 50		Title: Chief Executive Officer Email: Bedri.Dragusha@rks-gov.net	
Responsible Agency: Energy Regulatory Office (ERO)			
Contact: Krenar Bujupi Telephone No.: +381(0)38 247 615		Title: Member of the Board Email: kbujupi@ero-ks.org	
.			

Project Financing Data(in USD Million)					
[ ]	Loan	[ ]	Grant	[ ]	Guarantee
[X]	Credit	[ ]	IDA Grant	[ ]	Other

Total Project Cost:	34.00	Total Bank Financing:	32.50
Financing Gap:	0.00		

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Financing Source	Amount
BORROWER/RECIPIENT	1.50
International Development Association (IDA)	32.50
Total	34.00

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Expected Disbursements (in USD Million)

Fiscal Year	2015	2016	2017	2018	2019				
Annual	3.00	5.00	8.00	9.00	7.50				
Cumulative	3.00	8.00	16.00	25.00	32.50				

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Proposed Development Objective(s)

The project development objectives are to: (i) reduce energy consumption in central government-owned buildings; and (ii) enhance the policy and regulatory environment for energy efficiency and renewable energy development.

To achieve these PDOs, the proposed project will provide:
(i) investment finance for energy efficiency projects in all eligible central government-owned buildings;
(ii) demonstrations on the commercial viability and program models for energy efficiency investments in municipal buildings and renewable energy systems, such as solar water heating, for heating in select public buildings;
(iii) support to develop a robust policy and regulatory framework which will help attract investments in and scale-up energy efficiency and renewable energy; and
(iv) support for project implementation.

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Components

Component Name	Cost (USD Millions)

Energy efficiency investments in public buildings	24.00
Renewable energy investments for heating in public buildings	5.00
Policy and regulatory support for renewable energy and energy efficiency	2.64
Project implementation support	2.36

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Institutional Data

Sector Board

Energy and Mining

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Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Energy and mining	Energy efficiency in Heat and Power	80		100
Energy and mining	Other Renewable Energy	20		100
Total		100		

☐ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

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Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Environment and natural resources management	Climate change	80
Public sector governance	Other public sector governance	20
Total		100

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Compliance

Policy

Does the project depart from the CAS in content or in other significant	Yes [ ] No [X]

respects?	
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Does the project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No [X]
Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

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Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04		X
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11	X	
Indigenous Peoples OP/BP 4.10		X
Involuntary Resettlement OP/BP 4.12		X
Safety of Dams OP/BP 4.37		X
Projects on International Waterways OP/BP 7.50		X
Projects in Disputed Areas OP/BP 7.60		X

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Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**

Description of Covenant

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Conditions

Name	**Type**

Description of Condition

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Kashmira Daruwalla	Sr. Procurement Specialist	Procurement Specialist	ECSO2
Amelito Velasco	Procurement Analyst	Procurement	ECSO2
Jasneet Singh	Sr. Energy Specialist	Team Lead	ECSEG
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Katelijn Van den Berg	Sr. Environmental Economist	Environmental Safeguards	ECSEN
Astrid Manroth	Operations Advisor	Team Lead (former)	OPSRE
Bekim Imeri	Social Scientist	Social Safeguards	ECSSO
Norpulat Daniyarov	Sr. Financial Management Specialist	Financial Management	ECSO3
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Clara Alvarez Rodriguez	Sr. Infrastructure Finance Specialist	Risk Guarantee Expert	TWIFS
Jonida Myftiu	Financial Management Specialist	Financial Management	ECSO3
Karuna Elisabeth Phillips	Junior Professional Associate	Junior Professional Associate	ECSEG
Rhedon Begolli	Extended Term Consultant	Operations Officer	ECSEG
Trandelina Baraku	Extended Term Consultant	Environmental Safeguards	ECSEN
Mjellma Rrecaj	Temporary	Program Assistant	ECCKO

Non Bank Staff

Name	Title	Office Phone	City
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I. STRATEGIC CONTEXT

A. Country Context

1. A potential candidate for European Union (EU) membership, the Republic of Kosovo is the youngest country in Europe and a lower-middle-income country with a solid economic growth performance since the end of the war in 1999. On February 17, 2008, Kosovo unilaterally declared its independence and, by January 2014, was recognized by 105 United Nation member states and 23 out of 28 EU members. Kosovo is a landlocked country in South East Europe with about 1.8 million inhabitants, and a large migrant population mainly based in Western European countries. It is one of only four countries in Europe that recorded positive growth rates in every year during the crisis period 2008–12, averaging 4.3 percent. Medium-term growth beyond 2013 is expected to remain around 4 percent. The resilience of Kosovo's economy reflects: (i) limited international integration into the global economy; (ii) the success of its diaspora in the labor markets of, especially, the German-speaking countries of Central Europe, resulting in a steady reflux of remittances; (iii) a generally pro-growth composition of the budget, allowing for about 40 percent of public expenditures to be spent on public investments; and (iv) a steady influx of donor support.

2. Efforts aimed at strengthening domestic productivity—particularly critical in a euroized country—will need to remain the pivotal policy anchor, as Kosovo continues to struggle with high rates of unemployment and poverty. Joblessness in particular—estimated at about 30.9 percent in 2012—remains a central economic policy challenge. With the difficult labor market conditions affecting youth and women disproportionately, these conditions risk undermining the country's social fabric. Largely reflecting historical legacies, Kosovo remains one of the poorest countries in Europe, with a per-capita gross domestic product (GDP) of about €2,858 in 2013 and 29.7 percent of the population living below the poverty line—and 10.2 percent in extreme poverty, according to 2011 estimates.

3. The energy sector is a potential key source for future economic growth. Utilization of lignite resources by attracting strategic foreign investment could turn the energy sector into an engine of growth rather than a drain on public resources and major constraint to doing business. According to the Doing Business Report 2014, unreliable electricity supply is among the top constraints to businesses in Kosovo, together with dealing with construction permits, enforcing contracts, and trading across borders. Frequent power cuts are a major obstacle to day-to-day operations and a constraint both to investment in new equipment and business expansion, in turn affecting job and employment creation and investments.

B. Sectoral and Institutional Context

4. **Kosovo's electricity system cannot meet current demand.** Most of Kosovo's domestic electricity generation comes from two, unreliable lignite-fired power plants (50-year-old Kosovo A, 30-year-old Kosovo B) with net operating capacity of about 900-950 MW. Both plants are poorly maintained and operate well below their installed capacity. After the planned decommissioning of Kosovo A at the end of 2017, there will be a considerable supply shortfall, requiring new generation capacity to address this shortage of supply. The 2013 electricity annual demand in Kosovo was 5,520 gigawatt-hours (GWh) by the power distribution utility (KEDS) and the balance between supply and demand is being met by expensive electricity imports (annually around 10 percent of demand, or 625 GWh, at a cost of about €45 million in 2012).

5. **Heating of buildings is not financially or environmentally sustainable.** The main energy sources for both space and water heating in buildings in Kosovo are biomass (mainly firewood) and electricity (from lignite), together accounting for over 80 percent of heating consumption. The high consumption of unmanaged and unregulated firewood can lead to forest degradation, giving rise to adverse environmental, economic and health impacts. Heating with electricity is highly inefficient, and exacerbates power supply interruptions while creating the need for electricity imports, especially during the heating (winter) season. Kosovo has two isolated operating district heating (DH) systems (Pristina and Gjakova), which are facing serious problems as the heat demand exceeds supply, collection rates are low, fuel costs are high, and thermal losses exceed 18 percent. The total installed capacity of 183.5 MW only produces 130 GWh/p.a. (thermal) or about 3 percent of Kosovo's heating demand.

6. **Energy efficiency and renewable energy can help mitigate projected shortfalls**. The World Bank Power Supply Options Study (December 2011) forecasts that electricity demand will increase by 4.6 percent a year to about 8,800 GWh by 2020. The Study shows that the rising demand can be met by adding about 600 MW of new (replacement) thermal generation capacity, with an additional 402 MW of renewable energy (RE) generation by 2025 and parallel progress in loss reduction (halving technical losses to 8 percent by 2025 and non-technical losses to 5 percent) and end-use energy efficiency (EE). This is consistent with the Government's National Energy Efficiency and Renewable Energy Action Plans (NEEAP, NREAP), which call for a cumulative energy savings of 9 percent by 2018 (based on 2010 levels) and 25 percent RE target (of gross final energy consumption) by 2020, respectively. Such targets are in line with the EU energy acquis, as committed under the Energy Community Treaty, in areas of climate change and environmental protection, which will require strengthening the existing regulatory frameworks and institutional capacity in support of EE and RE investments.

7. **Kosovo has high EE potential.** Energy efficiency can help address issues related to energy security (current deficits and reduced imports), while reducing public expenditures on energy and environmental impacts of energy use. A 2013 World Bank Institute (WBI) preliminary market assessment showed the building sector (e.g. public, commercial, and residential) accounts for 47.5 percent of final energy consumption and has been rising steadily, at an average annual rate of 3.6 percent, over the period 2003-2011. The energy savings potential across the building sector was estimated at more than 44 percent. Of particular note were the high savings potential for public buildings. For municipal buildings, health buildings could save 47 percent, schools 38 percent and other municipal buildings 46 percent, even with modest improvements in current comfort levels to meet national norms. For central government buildings, the energy savings are estimated to be about 49 percent. Such savings offer substantial budgetary savings—estimates indicate that GOK spends some €41 million per year for energy in its buildings and could save as much as €18.85 million annually through cost-effective EE measures. The Government has recognized this potential and, thus, the 1st NEEAP included EE measures in the buildings sector (residential, commercial and public buildings) totaling 70 percent (21.7 ktoe) of the 3% target (2010-2012). The 2nd NEEAP, adopted in June 2013, reported that the initial 3% target was achieved (3.1% energy savings reported), all of which was in the buildings sector. In addition, the report targeted an additional 6.4% (65.9 ktoe) of energy savings from the buildings sector by 2018.

8. **There is also moderate RE potential.** The Bank's Power Supply Options Study estimated the percentage of installed RE and hydro capacity to increase from the current 2

percent (primarily hydro) to 32 percent by 2025 (60 MW small hydro, 257 MW wind, 18 MG biomass and 67 MG biogas). This is slightly higher than Kosovo's NREAP, adopted in November 2013, which includes a voluntary target of just over 29 percent, with sub-targets in three sectors: electricity generation (26 percent), transport (10 percent) and thermal energy for heating and cooling (46 percent). With regard to the electricity sector, the NREAP projects an increase in RE generation from 240 MW of small hydro, 305 MW of large hydro (HPP Zhur), 150 MW from wind, 14 MW from biomass and 10 MW from solar photovoltaic (PV). The target for heating and cooling would be met by 95.2 percent solid biomass, 4.3 percent solar water heating and 0.4 percent from geothermal heat pumps.

9. **Kosovo's regulatory regime needs to support RE targets.** Kosovo's Energy Regulatory Office (ERO) has put in place feed-in-tariffs (FiTs) for all RE technologies except for geothermal and solar PV systems. With assistance from the IFC, ERO is now in the process of reviewing a proposed design for FiTs applying to solar PV and associated draft contracts (power purchase and grid connection agreements). These enhancements to the regulatory framework have resulted in increased private sector interest in Kosovo's RE sector. To date, ERO has received 24 license applications for hydropower and wind projects totaling just under 360 MW of generation capacity; only five have yet received final authorization and none have yet reached financial closure or become operational. The regulatory regime also includes Certificates of Origin (CoO), but there is no clarity as to how these certificates will be issued or when and whether they will be applied as premiums in addition to FiT or only as a pre-condition or requirement for RE energy purchase. The policy interaction between FiTs and CoO is also unclear.

10. **Several barriers for EE and RE hamper faster progress.** A number of technical, economic, institutional, legal and regulatory and financial impediments have prevented meaningful investment in EE and RE to date. These include:

(a) **Energy pricing.** Regulated energy prices in Kosovo are not yet cost-reflective, making EE improvements financially unattractive and RE options uncompetitive. Household tariffs are estimated to be 20-30 percent below cost recovery levels; some industrial customers are subject to significantly higher prices effectively subsidizing the household sector. The wholesale tariff for electricity is €0.0302/kWh and the average end-use tariff is about €0.058/kWh. For DH, most consumers pay based on the heated floor area, which include a fixed component based on the heat capacity contracted (8 Euro cents/m^2 in Pristina, 2010-11 season) and variable element based on the heat delivered (92 Euro cents/m^2).

(b) **Financial barriers.** A lack of appropriate financing for the public (central and municipal) buildings sector is a key barrier to EE/RE investments, despite largely attractive returns. Commercial banks are generally not familiar with financial and technical issues involved in such projects and perceive the risks to lending to municipal and other public entities, as well as transaction costs of such projects, to be high. Restrictions on public and municipal borrowings, poor creditworthiness or a lack of borrowing history, inability to collateralize loans, etc. all constrain tapping into the investment potential. No credible energy service companies (ESCOs) or similar private service providers exist to finance such projects. While potential market entrants are possible, their ability to take significant debt on their balance sheets or offer long-term financing to uncreditworthy public entities remains untested and unlikely. Grid-connected RE project financing has been helped with the

adoption of suitable FiTs, however, without any sizeable RE power purchase agreements in place, the soundness of such contracts and off-taker payment discipline remain untested.

(c) **Lack of credible data and skepticism of benefits.** The lack of technical skills, baseline/resource data and awareness hampers the demand for EE/RE products and services. Potential project sponsors often lack the capacity to develop high quality bankable EE/RE investment proposals, or are skeptical of the baseline energy consumption, comfort levels, or RE resource availability. This then creates the perception of high risks, which in turn inhibit financiers from undertaking such projects. Thus, project beneficiaries become reluctant to undertake investments if they cannot be sure the operational savings or revenues will pay for the underlying investments.

(d) **Institutional and regulatory barriers.** Despite GOK's considerable policy efforts, the institutional and regulatory framework for EE/RE remains incomplete, with secondary legislations, rulebooks, financing mechanisms and other critical elements absent. The Kosovo Energy Efficiency Agency (KEEA) was established in 2011, but at present it remains understaffed and resourced. Underdeveloped markets, which lack demand and thus supply, thus suffer from low awareness, limited technical capabilities, no standardized contracts and protocols, underdeveloped financing modalities, etc. which collectively serve to increase individual transaction costs. The public sector also suffers from a range of procedural barriers, from budgeting to procurement, which tend to be rigid in nature and prevent many EE improvements from being made. For RE, existing licensing and permitting requirements are not streamlined and administrative processes are under the responsibility of various institutions at different government levels (federal, municipal). Also, many of the requirements are generic (not designed or adjusted to the specific characteristics of RE projects).

11. **Other donors are also active in EE/RE.** Two donors, KfW and the European Commission (EC), are both active in EE in the public municipal buildings. The EU is renovating some 65 municipal buildings (63 schools, 2 hospitals) on a grant basis; KfW is finalizing concessional loans with EU grant funds for four creditworthy municipalities to renovate about 30 municipal buildings. KfW is also working to ensure the Kosovo B power plant is cogeneration-ready, which would provide the necessary heat to the Pristina DH network. Combined with financial support to rehabilitate parts of the network, improve metering and billing systems, and investments to expand the network, these efforts would allow additional buildings, including public consumers, to be connected to the system. EBRD recently launched a €12 million credit line for EE and RE for small and medium enterprises and households. No donors are currently working on renovation of central government buildings. The proposed activities are also fully complementary to ongoing technical assistance (TA) by a cadre of donors, notably KfW (wind atlas), EC (updating of NEEAP), USAID (tariff modeling), IFC (FiT for solar PV, standardized RE power purchase and grid connection agreements), and UNDP (national greenhouse gas inventory and low carbon growth strategy).

C. Higher Level Objectives to which the Project Contributes

12. The World Bank's Country Partnership Strategy (CPS) for Kosovo (FY12-15, Report No. 66877-XK), discussed in May 2012, seeks to help (i) accelerate broad-based economic growth and employment generation; and (ii) improve environmental management. Pillar I aims at accelerating broad-based and sustained growth in six main areas, one of which is strengthening

infrastructure, particularly that of energy. Security of energy supply is crucial to achieve accelerated growth and job creation, improved quality of life, and an improved business environment. Pillar II seeks to support the GOK in increasing EE and the use of RE, reducing environmental hazards, enhancing water supply, and moving toward harmonization with EU environmental standards. The proposed project would thus address both pillars.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

13. The project development objectives are to: (i) reduce energy consumption in central government-owned buildings; and (ii) enhance the policy and regulatory environment for energy efficiency and renewable energy development.

14. To achieve these PDOs, the proposed project will provide:

(i) investment finance for EE projects in all eligible central government-owned buildings;

(ii) demonstrations on the commercial viability and program models for EE investments in municipal buildings and RE systems, such as solar water heating, for heating in select public buildings;

(iii) support to develop a robust policy and regulatory framework which will help attract investments in and scale-up EE and RE; and

(iv) support for project implementation.

B. Project Beneficiaries

15. The project will have a broad range of stakeholders and beneficiaries. Expected beneficiaries of the project would include:

- Central and municipal governments, through reduced energy expenditures, a renovated building stock and improved indoor comfort and functionality;
- The Ministry of Economic Development (MED), KEEA and ERO, through enhanced capacity development to support their roles in fostering sustainable energy;
- RE and EE equipment suppliers and service providers, through increased demand for their goods and services; and
- Patients, students and citizens through improvements in comfort levels, functionality, reduced air pollution due to lower energy use and infrastructure modernization in public buildings (universities, hospitals).

16. The Monitoring and Evaluation Framework will include pre- and post-renovation customer satisfaction surveys to identify and validate the number of total project beneficiaries and co-benefits during implementation.

17. There is active donor engagement in Kosovo's energy sector and the proposed activities under this project have been coordinated with them to ensure full complementarity.

C. PDO Level Results Indicators

18. Progress made under the proposed project will be monitored according to these PDO level results indicators: (a) projected lifetime energy savings from EE investments in government buildings (GWh); and (b) installed capacity of approved RE regulatory licenses (MW).

III. PROJECT DESCRIPTION

A. Project Components

19. The project will be supported by a US$32.5 million IDA credit to provide the necessary investment financing and policy support in order to meet the above PDOs and government EE/RE targets. Given the nascent state of the market in Kosovo today, it is proposed that the investment component focus on the public sector, which can demonstrate the benefits of EE/RE and help build the demand for related products and services. Such an approach can also help institutionalize technical standards and quality control for further market development, demonstrate commercial viability and enhance awareness of such investments, establish institutional capacity in the government agencies and suppliers to incorporate EE/RE into their facilities, and catalyze the supply chain for clean energy goods and services. The common ownership would also allow the project to be done at a greater and rapid scale than typical market-based schemes, thereby creating more consistent and stable demand while helping to foster various business models, such as energy service companies (ESCOs). As the markets and institutional capacities develop, and household energy pricing continues to move towards cost recovery levels, investment programs in the residential sector (where about 72 percent of the EE potential in building sector lie) will become more viable.

20. In order to realize the PDOs, four components will be carried out. These include: (i) EE investments in public buildings; (ii) RE investments in public buildings; (iii) RE and EE policy and regulatory support, as well as related RE resource assessments; and (iv) project implementation support. Details are provided below.

21. **Component 1: Energy efficiency investments in public buildings** (US$24.0 million). Under this Component, EE investments ("EE subprojects") would be undertaken in public facilities (both central-owned and municipal government buildings). It is expected that such EE subprojects will generate demonstrable energy cost savings and social co-benefits. Specific criteria have been agreed and are provided below. Detailed energy audits will be conducted to identify economically justified EE measures (i.e., simple payback period under 10-12 years with adjustment for comfort levels) and would focus on typical building-level energy measures such as building envelope (windows, doors, wall/roof insulation), heating systems (boilers, piping and insulation, radiators, valves/controls, meters), fuel switching (lignite/oil to biomass or district heating when viable), cooling and ventilation, pumps/fans, lighting, and improved operations and maintenance practices.

22. Two sub-components are proposed. These include:

(a) **EE investments in central government buildings** (US$18 million). There are some 330 centrally-owned government buildings across the country with more than 180,000 m^2 of floor area. Centrally owned buildings span several ministries, with the main users being Education, Health, Justice and Culture. All these buildings have very high energy use and

most meet or exceed norms for internal comfort levels, with estimated energy savings potential of over 40 percent. Under this subcomponent, it is proposed to finance all eligible EE investments in central government buildings—about 150-200 buildings—thereby significantly reducing energy use and public expenditures in heating and power services. Agreed eligibility criteria will include: (i) buildings must be owned by the central government (excluding publicly-owned enterprises); (ii) buildings must be structurally sound and not had a full EE renovation in the past 10 years; (iii) there are no plans for office moves, closure or privatization; and (iv) some buildings related to defense or police (e.g., prisons) would not be eligible.

(b) **Pilot EE investment program for municipalities** (US$6.0 million). Municipal public buildings account for 1,480 buildings, representing some 2.36 million m^2. A pilot municipal EE financing program is now being designed to test schemes to accelerate the transition to more commercial financing, such as requirements for partial co-financing, partial payments to contractors based on actual energy savings, and mechanisms to allow the funds to revolve. The program is expected to involve 1-2 rounds of competitive calls in the latter years of the project for municipal proposals for grants to support building and street lighting improvements with some co-financing requirement, or possibly a budgetary mechanism to recover part of the funds. This component would test various schemes in order to help MED formulate a broader program to address the full municipal market.

23. **Component 2: Renewable energy investments for heating in public buildings** (US$5 million). Kosovo has established a target for RE to support heating and cooling of its building sector for RE, including biomass, solar water heaters (SWHs) and geothermal heat pumps, since current practices rely on fossil fuels, such as lignite and oil, electricity, or unsustainable biomass. Water heating, for example, represents 15 percent of heating demand and is primarily done today using electricity, which is inefficient. This component would support investments in select RE technologies in central government and municipal buildings to demonstrate the technical and market viability of such applications while helping to catalyze local manufacturing and supply chains. While several RE systems may be viable in the medium-term, the project would focus on conversion of lignite/oil boilers to sustainable biomass (e.g., use of wood chips, briquettes, pellets from underutilized wood residue) boilers and SWHs. RE system feasibility will be assessed as part of the energy audit studies conducted to support investments in government buildings under Component 1 and would be fully complementary. Installation of a critical mass of systems and dissemination of the costs and benefits (to be supported under Component 4) would help further develop this market.

24. **Component 3: Policy and regulatory support for RE/EE** (US$2.64 million). The Law on Energy Efficiency, 1st and 2nd NEEAPs, NREAP and other packages approved by GOK provide a strong base for sustainable energy development within Kosovo. Now, greater effort is needed to develop the necessary secondary legislation, regulations, rulebooks and other aspects to allow implementation to take place, while conforming with EU guidelines and helping them to meet their obligations under the Energy Community Treaty. In addition, reliable and complete resource data is needed to help foster further investments.

25. Under this component, two subcomponents are proposed:

(a) **Support to ERO for RE and EE development** (US$1.8 million). ERO has proposed a plan to focus on four areas: (i) support for the regulatory regime as it relates to RE, including FiTs (except for solar PV) and consumption-based DH tariffs to ensure an

effective and economically efficient policy and regulatory regime; (ii) streamlining the permitting and licensing process, including mechanisms to monitor applications; (iii) support for formalizing the grid integration rules, including grid balancing, curtailment, etc.; and (iv) further analyses on FiT cost recovery mechanisms and impacts on consumer affordability. This package of regulatory support will also include stakeholder roundtables and public consultations, development of guides and information to potential project developers and ERO staff training. ERO will also undertake one detailed RE assessment (small hydro), complete with site specific measurements, in coordination with relevant ministries and technical agencies, to provide more comprehensive and reliable data and analysis and disseminate it to potential project developers.

(b) **Support to MED for EE secondary legislation** (US$0.84 million). While the EE Law is in place, secondary legislation remains underdeveloped. Under this subcomponent, support will be provided to MED to develop a sustainable municipal EE financing scheme (e.g., revolving EE fund) to scale-up the municipal EE pilot program under Component 1b. Other activities which are being discussed include the development of rulebooks to support implementation of the EU energy performance in buildings directive (EPBD) (in cooperation with MESP), development of standards and labeling regimes for building and construction materials (.e.g., windows, insulation), review of public procurement rules as they relate to energy efficient equipment and services (e.g., ESCOs), and relevant homeowner association (HOA) legislation to enable simplified decision-making, contracting and borrowing for EE measures among residential end users. A final plan for policy support will be agreed by project appraisal.

26. **Component 4: Project implementation support** (est. US$2.36 million). The project will also support the main implementing agency, KEEA, to help ensure effective project implementation of the other three components. This would include: (i) creation of a project implementation unit (PIU) within KEEA to carryout Components 1-3, including support for procurement, financial management, technical oversight, project monitoring and reporting; (ii) technical studies and supervision, including conducting of building energy audits, development of detailed designs and bidding documents, construction supervision, project commissioning, etc.; (iii) targeted training of design firms, construction companies and other EE/RE service providers and information dissemination related to early project impacts and results; and (iv) training of KEEA and PIU staff to ensure effective implementation of the project and sustainability of project activities and goals.

27. Grant funding in the amount of €700,000 has been mobilized from the Western Balkans Investment Framework (WBIF) to help analyze the investment needs and potential of the central government buildings. Specific outputs would include an update to the national public building stock inventory and completion of about 200 detailed energy audits in government buildings (for investments in Years 1-3), and an environment report about potential hazardous materials from the building renovations.

B. Project Cost and Financing

28. The proposed project will have a total estimated cost of US$34.00 million. The proposed project will be implemented over five years through Investment Project Financing, financed by

an IDA credit of US$32.50 million to the Republic of Kosovo, and cofinancing (US$1.5 million) from local governments under Component 1b – *pilot EE investment program for municipalities*.

Project Components	Project cost	IDA Financing	% IDA Financing
1. EE investments in public buildings	24.0	22.5	93.8
2. RE investments	5.0	5.0	100
3. Policy and regulatory support for RE/EE	2.64	2.64	100
4. Project implementation support	2.36	2.36	100
Total Costs	34.0	32.5	
Total Project Costs			
Front-End Fees			
Total Financing Required	34.0	32.5	95.6

C. Lessons Learned and Reflected in the Project Design

29. The design of the project draws upon experience and lessons learned from previous World Bank EE projects targeting the public sector within the ECA region, as well as other donors working in Kosovo: Armenia Energy Efficiency (2012), Macedonia Sustainable Energy (2006), Montenegro Energy Efficiency (2008), Bulgaria Energy Efficiency (2005), Croatia Energy Efficiency (2003), Kazakhstan Energy Efficiency (2013), and Serbia Energy Efficiency (2004), as well as from recent World Bank and ESMAP[1] publications. Key lessons include:

(a) Early successes and well-documented case studies are needed to establish program credibility and help demonstrate that EE can save money.

(b) There is a need to introduce market principles early on in a program (e.g., less than 8-10 year simple payback period, co-financing from municipal beneficiaries) to transition to a more commercially sustainable system in outer years.

(c) When introducing innovative contracting mechanisms such as ESCOs, it is advisable to begin with simpler models and introduce more complex transactions as the market develops and supporting systems evolve.

(d) Strong technical energy diagnoses, clear and transparent eligibility and selection criteria, quality technical standards and construction supervision, sound measurement and verification (M&V) procedures, and a strong initial pipeline are critical to ensure quick disbursements and achievement of desired outcomes.

(e) Ongoing policy dialogue and capacity building are critical to overcome emerging obstacles during implementation and enhance the enabling environment for EE, sustainable energy financing, ESCO development, etc. Issues related to public budgeting, procurement, municipal finance, ESCO contracting and other aspects must be a part of this dialogue to ensure long-term sustainability.

30. For RE, the experience and lessons learned from previous World Bank projects with components focused on design and performance of policy and regulatory frameworks in the ECA region and worldwide include the following:

[1] Energy Sector Management Assistance Program.

(a) *Policy choice:* The choice of policy and regulatory instruments must be consistent with the characteristic of the system/market, institutional capacities, as well as with the overall investment climate.

(b) *Policy interactions and compatibility:* The coexistence of policy and regulatory instruments has the potential to result in complex interactions and unintended effects which can occur with electricity sector's market rules and policies, but also with the wider set of polices introduced by other sectors (e.g., interactions between carbon and green certificates, fiscal incentives and RE targets, or between innovation and market development policies).

(c) *Coordination of policies across sectors/sub-sectors:* Policy objectives and incentives should be coordinated across sectors and sub-sectors to enhance synergies, avoid overlapping and excessive policy costs or subsidy volumes (for example, between RE and EE, or between climate change and energy security objectives).[2] The design of policy instruments needs to be construed as interacting with national energy and non-energy policies in a dynamic context.

(d) *Policy sequencing.* Policies to support sustainable energy can be introduced in phases depending on the characteristics of the system such as resource endowments, market structure and size, conditions of the grid, tariff policies, demand growth, institutional capacity and other.

(e) *Sustainability of incremental cost recovery mechanisms:* Fiscal transfers or surcharges to consumer tariffs need to be transparent, efficient, sustainable, and limited.

(f) *Monitoring and Evaluation:* A tracking system is needed to assess performance and create a feedback loop into the design of policies.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

31. KEEA, under MED, will act as the lead implementing agency for the project and maintain fiduciary responsibilities for all components. For this purpose, KEEA's capacity will be strengthened with consultant support for procurement and financial management and technical supervision and oversight. To ensure proper coordination with the various line ministries and subproject beneficiaries under Components 1 and 2, it was agreed that MED would establish a Coordination Group (CG), with invitations to relevant ministries (e.g., Finance, Education, Health, Public Administration, Local Government, Environment and Spatial Planning, Justice, Culture) to participate. The CG would be chaired by KEEA and would discuss issue related to subproject pipelines, inter-ministerial coordination, budgeting and procurement, resolving of implementation issues, etc. For technical issues related to Component 3, KEEA will liaise closely with the concerned agencies (e.g., ERO, MESP, municipal association) on technical oversight of policy and regulatory advice, option papers, assessments and training to ensure proper coordination. A Project Operations Manual (OM) is now under development to document project procedures, eligibility criteria, procurement and environmental framework, financial management (FM) and disbursements, schedule and reporting.

32. Since all eligible central government buildings would be included in the project, there is no need for selection criteria or approval procedures. About 40 audits already exist for central

[2] In the buildings sector, introducing RE heating and cooling and distributed power generation should be considered in tandem with EE measures, as combining both options creates synergies in energy security.

government buildings which would be updated and implemented first. Line ministries were requested by KEEA to provide basic information on their building stock and those that are eligible would be implemented in batches under the project. KEEA would also enter into tri-party Memorandums of Understanding (MOUs) with each building administrator and line ministry, to clarify the roles and responsibilities of each party. An MOU template would be prepared and included in the OM, along with a list of buildings to be renovated in Years 1 and 2.

B. Results Monitoring and Evaluation

33. KEEA and its PIU will have primary responsibility for day-to-day monitoring of the project and individual subprojects. The PIU will develop a monitoring system to track ongoing project progress, procurement, investments and disbursements, energy audit data and energy commissioning reports. KEEA and its PIU will be required to submit biannual progress reports to MED management and the Bank for review. The outline of this progress report will be developed and included in the Project's Operations Manual.

34. For energy savings, data will be collected from the detailed energy audit reports to determine pre-project energy use and comfort levels. For each subproject, a post-project energy savings commissioning report will also be prepared to compare energy use and patterns and determine actual energy savings for reporting purposes. Variances between estimated and actual energy savings will be documented for improving future energy audit reports through training, case studies, etc. During the early years of project implementation, close Bank supervision will be done to assist the PIU in refining their monitoring system and internal capabilities. For RE, data will be collected from ERO based on their license application and approval database. The support for RE license monitoring under Component 3a will also help improve monitoring of such data as well as identify potential delays in developer permitting, etc. The project will also develop and implement pre- and post-renovation customer satisfaction surveys to track the number of total project beneficiaries and co-benefits during implementation.

35. A Mid-Term Review will be carried out to assess the overall project progress, identify critical implementation issues and make any necessary revisions to the project design, parameters or schedule as agreed. Key lessons learned and implementation experiences by KEEA, the line ministries and contractors will be documented through supervision and progress reporting in order to incorporate them into the sustainable municipal EE financing scheme to be developed under Component 3b.

C. Sustainability

36. Because the IDA credit funding is limited and the need for investment in building EE is large, sustainability is important to the project's design. The WBI market assessment report estimates that the building sector (including commercial, public and residential facilities) will require some €1.38 billion in EE investments through 2020. Solar water heating would contribute an additional €33.9 million in investments. Therefore, this project is designed to help build capacity within the PIU, KEEA/MED, service/equipment providers and others. It will also yield valuable case studies and data for better understanding of the market needs and potential. The pilot EE investment program for municipalities (Component 1b) would seek to include modest co-financing from the municipalities, as a selection criteria, to leverage the IDA funds and introduce options for financing from service providers (e.g., ESCOs), commercial banks and

other sources. Other contracting mechanisms are also planned, to allow for partial payments based on project performance (i.e., actual energy savings). In order to ensure proper maintenance of retrofitted central and municipal public facilities, a provision will be included in the Subproject Agreement with project beneficiaries.

37. Under Component 3a, possible sustainable municipal EE financing schemes (e.g., revolving EE fund) will be investigated, assessed and developed to help transition the program to a more market oriented financing scheme, to allow for sustainability and scalability. The project, in collaboration with other donors, will help the GOK address the existing barriers by developing regulatory legislation and sustainable energy financing mechanisms, strengthening technical capacities and providing trainings. Discussions with bilateral donors on key secondary legislation have already identified critical policy gaps that can be jointly discussed with MED, ERO and other GOK agencies.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Risk Category	**Rating**
Stakeholder Risk	**Low**
Implementing Agency Risk	
- Capacity	**Substantial**
- Governance	**Low**
- Fraud and Corruption	**Substantial**
Project Risk	
- Design	**Substantial**
- Social and Environmental	**Moderate**
- Program and Donor	**Low**
- Delivery Monitoring and Sustainability	**Moderate**
- Other (Optional)	
Overall Implementation Risk	Substantial

B. Overall Risk Rating Explanation

38. Project preparation risk is rated as ***Substantial*** due largely to the risks related to the main implementing agency, KEEA, and complexity of the project. As a relatively new institution, KEEA needs to fully develop into an independent organization, with sufficient technical, financial and managerial capabilities to fully carryout their mandate to promote EE throughout the country, and become a competent implementing agency. Their unfamiliarity with Bank procurement, safeguard and FM procedures, the relative size and scope of the program, and the difficult political situation will pose challenging during the project preparation process. Substantial preparation delays have already taken place due to the lack of familiarity with Bank procurement procedures, the highly restrictive public budgeting system, and the limited staff

within KEEA. Timely project negotiations and project effectiveness will further test KEEA's and GOK's capacity.

39. Implementation risk is rated as ***Substantial*** due in part to the country and sector risks, the scope of the project and 5-year implementation period, and KEEA's capacity. The future development of the energy sector will have major ramifications on the continued investment in the EE and RE sectors and on project sustainability. The multi-sectoral nature of the project (which spans several ministries) and KEEA's limited knowledge of Bank procedures (e.g., procurement, safeguards) will also need to be carefully managed and supervised throughout the project implementation period. The high volume of buildings to be renovated, technical complexity of buildings, limited availability of building drawings and energy use data, restrictions on MED annual budgetary spending, and limited managerial and financial capacity of local construction firms will all make full and successful implementation of the project within the implementation period a challenge.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

40. EE investments are win-win-win investments, providing energy bill savings for end users, reduced investments and imports for the government, and reduced environmental impacts. Based on data from similar projects in neighboring countries, simple payback periods for EE and RE (for heating) investments in public buildings are typically in the 6-8 year range. Since the investments will be in the public sector, the government will directly benefit from reduced energy expenditures, reduced imports, easing of supply/demand constraints within the power sector, contribution to national EE and carbon emission targets, reduced air pollution, and improved comfort levels for employees and citizens.

41. A cost-benefit analysis was carried out in the form of economic and financial analyses for the EE investments central government buildings under Component 1a (US$18 million) as well as the linked RE investments for heating in public buildings under Component 2 (US$5 million). These two investments make up the bulk of the investment portfolio. Adequate information in the form of energy audits was not available at this time to carry out a cost-benefit analysis for Component 1b, the pilot EE program for municipalities. While Components 3 (Policy and regulatory support for RE/EE) and 4 (Project implementation support) are an integral part of the overall project design and critical for project sustainability, these investments were not included in the analyses as it was not possible to quantify the expected benefits.

42. A sample of typical investments in centrally-owned government buildings to be implemented under the project was assessed (financial/economic analyses to determine FIRRs, EIRRs, NPVs) as part of the appraisal package. Energy audits were conducted in two administrative buildings; three additional energy audits (two universities and one hospital) are being revised now and will be included by end Appraisal).

43. Economic and financial analyses. The economic costs and benefits of the projects were calculated exclusive of taxes and subsidies and the assessment of the financial costs and benefits was inclusive of taxes. The main economic quantifiable benefit from the EE investments is the economic value of saved energy. EE investments will also generate other economic benefits (improved comfort, quality of service, local environmental externalities, improved real estate/building condition, etc.) that were not quantified in this analysis. The main financial

benefit of the investments is the reduction in the energy bills of selected public facilities. Both the financial and economic costs of the EE investments are the capital investments.

44. A cost-benefit analysis was conducted to assess the economic and financial viability of the EE investments. The EE investments are considered economically and financially viable if the Net Present Value (NPV) of economic benefits and cash flows is positive and if the Economic Internal Rate of Return (EIRR) and the Financial Internal Rate of Return (FIRR) are higher than the discount rate used. The results of the economic and financial appraisal are presented below in Table 4. While the economic analyses show very attractive returns, the financial analyses recover their investments in only 10-11.5 years. The main reasons for this are the poor conditions of the buildings audited, the lower comfort levels (temperature at which the building is currently maintained) and the low energy prices. Since the proposed renovations will include bringing these buildings to national norms for indoor temperatures, the project will result in significant improvement of heating levels, not taken into account in the analyses. If the baseline energy costs were adjusted for comfort levels, the FIRRs would increase to 37-45%.

Table 4: Results of Economic and Financial Analyses for EE Investments

	Economic NPV (US$)	**EIRR (%)**	**Payback (years)**	**Financial NPV (US$)**	**FIRR (%)**	**Payback (years)**
Kosovo Statistics Agency	432,947	46.4	2.2	-75,387	0.4	11.4
Ministry of Culture	538,252	37.8	2.7	-103,250	2.7	10.4

45. Sensitivity analysis. The key parameters, which may significantly affect the overall financial viability of the EE investments, are the investment costs and estimated energy savings. The impact of the defined variation of those parameters is presented in Annex 6. The results of the sensitivity analysis suggest that EE investments are economically viable under all of the selected scenarios, but that financial viability is adversely affected by the fact that the two buildings audited are not currently operating at optimum comfort levels, as noted above.

B. Technical

46. The typically small-sized subprojects to be funded by the Project involve standard, well proven technology for EE improvements in and RE applications of public facilities (e.g., administrative buildings, hospitals, universities) with demonstrable energy and cost savings. No technology risk should be incurred. The Project will primarily finance EE improvements in building envelop (insulation of walls, basements and attics, repair/replacement of external doors and windows, window optimization), heating and cooling systems (boiler upgrade/replacement, reflective surfacing of walls behind radiators, automatic control systems, pipe insulation, chiller/air condition replacement, heat pumps), lighting (compact fluorescent lamps, light emitting diodes), other energy-using systems (e.g., pumps and fans), fuel switching (e.g., from fossil fuel or electricity to biomass, geothermal or SWH). Heating and ventilation systems will allow for programming of the ventilation regime and inside temperature by the occupants. The subprojects will have net positive environmental impacts.

C. Financial Management

47. A financial management (FM) assessment was carried out to determine the FM implementation risk and help establish adequate FM arrangements for the proposed operation. The overall FM risk is considered moderate. The existing FM arrangements in MED were reviewed including such systems as: staffing, internal controls, project accounting and financial reporting for project purposes, planning and budgeting, disbursements and auditing. Areas that require further strengthening were discussed recommendations and complementary actions were provided to ensure that project is implemented within a sound fiduciary environment and meet the minimum requirements under OP 10.00.

48. As project implementation is mainstreamed within the MED, the Budget and Finance Division will be responsible for FM aspects of the Project. Additional project implementation support to the division will be provided through recruitment of an experienced FM specialist (part-time or full-time) who will be located in the PIU and will provide support on the preparation of project plans and budgets, financial reports, ex-ante controls to project expenditure and coordination with auditors, as well as initiate disbursement applications. Training on Bank FM and disbursement policies and procedures will be provided to the MED budget and finance division and FM specialist. General government regulations for processing transactions and approving contracts exist. Policies and procedures for implementation of the project will be documented in the Project OM which will be agreed during appraisal. The OM will include the FM, disbursement and internal controls policies and procedures, and is intended to guide staff and minimize the risk of errors and omissions, as well as delays in recording and reporting.

49. The investment spending forecast mirroring Project Implementation Plan should be adequately reflected in the MTEF and the Kosovo Consolidated Budget for 2014 and onward. GOK pre-finances Bank-funded project expenditures and then requests reimbursement from the Bank. Other disbursement methods used in Kosovo are direct payment disbursement method to third parties (consultants, suppliers, contractors), and special commitments for supply of goods. An independent audit of the use of project funds will be conducted on an annual basis, by independent auditors and based on audit terms of reference (TOR), both acceptable to the Bank.

D. Procurement

50. Procurement for the proposed Project will be carried out in accordance with the World Bank's "*Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by the World Bank Borrowers"* dated January 2011 (Procurement Guidelines); "*Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers*" dated January 2011 (Consultant Guidelines); and, the provisions stipulated in the Financing Agreement (FA). The World Bank's *"Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006 and revised in January 2011 (Anti-Corruption Guidelines)* will apply to this Project.

51. A detailed procurement capacity assessment was carried out in March 2014, using the Procurement Risk Assessment and Management System (P-RAMS)**.** The main procurement risks related to the Project would be: (i) potential delays in procurement and contract implementation due to internal coordination within the MED procurement department and KEEA and its low

capacity; (ii) bid evaluation committee members are not familiar with international procurement procedures, and may obstruct or delay the procurement process, especially the evaluation of bids and proposals; (iii) risk of improper procurement implementation due to unfamiliarity of MED/KEEA staff on the World Bank's January 2011 Procurement/Consultants Guidelines and latest relevant Standard Bidding Documents; and (iv) the need for expert services for highly specialized areas for some of the procurement activities. Based on experience from the past and ongoing evaluation reports submitted by KEEA to hire core PIU staff on a retroactive basis, the following mitigation measure are proposed: (a) to hire an experienced Procurement Consultant familiar with Bank procurement procedures on a part-time basis to support KEEA during preparation and to retain them during implementation if the performance of the Procurement Consultant is acceptable to KEEA; (b) KEEA's Procurement Consultant would provide assistance to the Evaluation Committee during bid evaluation reports and contract agreements; (c) to hire consultants to assist in the preparation of bidding documents/technical specifications, bid evaluation reports and contract management for highly specialized contracts; (d) to prepare and initiate high priority contracts before project effectiveness; and (e) to provide advice and assistance on a regular basis by the Bank's Senior Procurement Specialist. The procurement plan is being prepared by KEEA which shall be agreed upon between the Government and the Bank during negotiations. Details on project procurement arrangements are presented in Annex 3.

E. Social (including Safeguards)

52. The Project will finance EE rehabilitation of existing public buildings owned by the central government and local government. Any subproject which would result to trigger of the Operational Policy on Involuntary Resettlement will be excluded from funding. This will be explicitly indicated in the OM. The implementing agency and the Bank's project team will have the responsibility to ensure observance of this provision during implementation. Thus, the project bears neither social risk from the social safeguards point of view nor other associated social risks. Rather, the Project has substantial positive social impacts. By investing and promoting EE in public facilities, through subprojects under Component 1, a wide segment of the economically disadvantaged population will benefit. The economically poorer members of the population that cannot afford private facilities, especially in education and health, rely heavily on these public services and buildings. By investing in energy saving measures, the public facilities will be able to reduce their operating costs and improve service and comfort levels, without any economic burden being transferred upon the beneficiary. The project will also develop and implement pre- and post-renovation customer satisfaction surveys and social monitoring, to track the number of total project beneficiaries and co-benefits during implementation, disaggregated by gender. The social monitoring and assessment of the implementation of EE measures will be conducted to define subjective perceptions of end users, employees and users of public services on indoor comfort satisfaction and define the level of knowledge and awareness of EE. The social monitoring survey will be conducted over the project implementation period, and will be applied on a selected sample of central government buildings. The work will assess 'pre-implementation' (i.e., before renovations), and 'post-implementation' (i.e., after renovation). The social monitoring will aim to measure: end users' satisfaction, perception of indoor comfort levels, awareness of EE, and additional benefits from the EE improvements (e.g., reduced sick days, increased productivity, increased budget for other priorities, etc.).

53. As the Project will retrofit public buildings it is expected that both women and men will benefit equally from the project in buildings where they are equally present. However, in buildings such as hospitals where staff are substantially female, the Project will provide increased comfort to them as well as especially vulnerable patients such as the elderly and children of both sexes. Although the project has no explicit gender activities, the number of female beneficiaries as a percentage of total beneficiaries will be monitored. Gender disaggregated data for the beneficiaries would be collected.

F. Environment (including Safeguards)

54. The Project is classified as Category B under the World Bank Operational Policy 4.01 Environmental Assessment. An Environmental Management Framework (EMF) for all components of the Project has been prepared and public consultations are being organized, based on which the EMF will be finalized and disclosed in the Infoshop prior to appraisal completion. This Framework consists of an Environmental Management Checklist for the EE and RE components on the basis of checklists under similar projects in the region. The PIU has selected an Environmental Specialist. Environmental effects of the Project are expected to be mostly positive due to the energy savings, CO_2 emissions and local pollution avoided due to the Project. The main health and safety issues are expected from the civil works and resulting small quantities of hazardous waste from asbestos and mercury containing lamps which could arise from the renovation works.

55. The EMF contains a detailed overview of Kosovo legislative requirements and good international practices related to removal, handling and repackaging, landfilling and storage requirements of asbestos related materials and removal, handling, interim storage and treatment options for mercury containing lamps, which the Environmental Specialist in the PIU will oversee in cooperation with the Ministry of Environment and Spatial Planning (MESP). In addition, the Consultants hired under the WBIF grant are now assessing the investment needs and potential of the central government buildings. They will also under take an analysis of estimates of the quantity of asbestos present in the buildings and provide information on good international practices regarding removal, packaging, transport and recycling/disposal. This analysis will also be undertaken for other hazardous materials possibly present in the buildings, including mercury from lamps.

56. The team also investigated if any central government buildings eligible for renovation were registered with the Kosovo Council for Cultural Heritage, which would require an additional permit based on the detailed renovation design. About 4-5 central government buildings appeared to meet this criteria, but it was agreed these buildings would be avoided. Still, the EMF and checklist include procedures for renovating these buildings in accordance with Bank policy and Kosovo's local procedures in the event there are not sufficient central buildings that meet the eligibility criteria.

Annex 1: Results Framework and Monitoring

KOSOVO: Energy Efficiency and Renewable Energy Project (P143055)

Results Framework

Project Development Objectives

PDO Statement

The project development objectives are to: (i) reduce energy consumption in central government-owned buildings; and (ii) enhance the policy and regulatory environment for energy efficiency and renewable energy development.

These results are at	

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	YR5			
Projected lifetime energy savings	☒	Gigawatt-hours (GWh)	0	70	185	370	577	750	Once for each project	Pre-project energy audit, post project commissioning reports	KEEA
Installed capacity of approved RE regulatory licenses	☐	Megawatt	36.7	36.7	78	118	159	200	Biannually	ERO	ERO

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	YR5			
CO_2 emission reductions in retrofitted public facilities	☐	Metric ton (CO_2)	0	80	215	430	673	875	Biannual	KEEA/Energy Audit Reports	KEEA

through EE investments											
Amount of installed energy capacity for RE systems for heating under project	☐	Megawatts (MW)	0						Biannual	KEEA/Energy Audit Reports	KEEA
Annual energy costs savings	☐	Amount (USD million)	0	5.7	11.4	17.0	22.7	22.7	Biannual	Project commissioning reports	KEEA
Number of subprojects commissioned in public facilities	☐	Number	0	20	50	90	140	200	Biannual	KEEA/PIU	KEEA/PIU
Direct project beneficiaries, of which female	☒	Number, %	0 0	2,000 33	50,000 33	90,000 33	140,00 33	200,000 33	Biannual	KEEA/Energy Audit Reports	KEEA/PIU
Development of suitable EE financing mechanism for the municipal sector	☐	Text	No		Financing option identified & analyzed	New financing mechanism selected	New financing mechanism adopted		Biannual	MED	MED
Enhanced policy/ regulatory mechanisms developed/adopted to scale-up RE	☐	Composite score	Not yet[3]					TBD	Annual	RISE questionnaire	World Bank
Number of people trained	☐	Number	0	50	150	250	350	500	Biannual	KEEA progress reports	MED

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)
Projected lifetime energy savings	This indicator projects lifetime energy savings directly attributable to the project, converted to MWh.

[3] RISE (Readiness for Investment in Sustainable Energy) is a new Bank initiative that seeks to measure and track country performance on sustainable energy development (energy access, RE, EE) similar to the Doing Business indicators which will be rolled out in all countries in 2015. Under the Project, RISE will develop a composite score for each country based on the following attributes: (i) appropriate subsidy level and period of support, (ii) sustainability of incremental cost recovery mechanism, (iii) certainty (i.e.; policy design includes elements that allow predictability in price changes or adjustments), and (iv) prioritized access to the grid.

Capacity of approved regulatory licenses for renewable energy	The total capacity (in MW) of power generation project licenses with a final approved by ERO generated by RE resources (e.g., small hydro, wind, solar, biomass)

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)
CO_2 emission reductions in retrofitted public facilities through EE investments	The total lifetime avoided CO_2 emissions equivalent from the EE and RE investments made under the project, using the grid emissions factor in Kosovo for electricity and carbon content for other fuels saved (e.g., Mazut, heavy fuel oil, lignite).
Amount of installed energy capacity for RE Systems for heating under project	The total installed capacity (in MW) of energy generation potential by RE systems (e.g., solar water heaters, biomass heaters, geothermal heat pumps etc.) installed under the project.
Annual energy costs savings	This indicator projects lifetime energy cost savings (in USD) resulting from EE investments made under the project.
Number of subprojects commissioned in public facilities	This indicator will measure the actual number of buildings renovated and commissioned under the project.
Direct project beneficiaries, of which female	This indicator will measure the full number of project beneficiaries (building occupants) for the EE/RE investments made under the project, along with the percentage that are female.
Development of suitable EE financing mechanism for the municipal sector	Development of suitable, sustainable financing mechanism for EE investments in the municipal sector (e.g., municipal-owned public buildings, street lighting)
Enhanced policy/regulatory mechanisms developed/adopted to scale-up RE	Composite country score based on RISE assessment based on the following attributes: (i) appropriate subsidy level and period of support, (ii) sustainability of incremental cost recovery mechanism, (iii) certainty (i.e.; policy design includes elements that allow predictability in price changes or adjustments), and (iv) prioritized access to the grid.
Number of people trained	Number of people trained in energy auditing, design, construction including PIU staff.

Annex 2: Detailed Project Description

KOSOVO: Energy Efficiency and Renewable Energy Project

1. The project development objectives (PDOs) are to: (i) reduce energy consumption in central government-owned buildings; and (ii) enhance the policy and regulatory environment for energy efficiency (EE) and renewable energy (RE) development. To achieve these PDOs, the proposed project will provide: (i) investment finance for EE projects in all eligible central government-owned buildings; (iv) demonstrations on the commercial viability and program models for EE investments in municipal buildings and RE systems, such as solar water heating, for heating in select public buildings; (iii) support to develop a robust policy and regulatory framework which will help attract investments in and scale-up EE and RE; and (iv) support for project implementation.

2. The project directly supports Kosovo's National Energy Efficiency and Renewable Energy Action Plans (NEEAP, NREAP), which call for a cumulative energy savings of 9 percent by 2018 (based on 2010 levels) and 25 percent RE target (of gross final energy consumption) by 2020, respectively. About 47.5 percent of Kosovo's energy use is attributed to the buildings sector and, therefore, the 1st NEEAP included EE measures in the buildings sector (residential, commercial and public buildings) totaling 70 percent (21.7 ktoe) of the 3% target (2010-2012). The 2nd NEEAP was adopted in June 2013 and reported that the initial 3% target was achieved (3.1% energy savings reported), all of which was in the buildings sector. In addition, the report targeted an additional 6.4% (65.9 ktoe) of energy savings from the buildings sector by 2018. KEEA is also working with ten municipalities to help them develop municipal EE action plans and reporting. Kosovo's NREAP, adopted in November 2013, includes a voluntary target of just over 29 percent, with sub-targets in three sectors: electricity generation (26 percent), transport (10 percent) and thermal energy for heating and cooling (46 percent). With regard to the electricity sector, the NREAP projects an increase in RE generation from 240 MW of small hydro, 305 MW of large hydro (HPP Zhur), 150 MW from wind, 14 MW from biomass and 10 MW from solar PV. The target for heating and cooling would be met by 95.2 percent solid biomass, 4.3 percent solar water heating and 0.4 percent from geothermal heat pumps.

3. The project will be supported by a US$32.5 million IDA credit to provide the necessary investment financing and policy support in order to meet the above PDOs and government EE/RE targets. Given the nascent state of the market in Kosovo today, it is proposed that the investment component focus on the public sector, which can demonstrate the benefits of EE/RE and help build the demand for related products and services. Such an approach can also help institutionalize technical standards and quality control for further market development, demonstrate commercial viability and enhance awareness of such investments, establish institutional capacity in the government agencies and suppliers to incorporate EE/RE into their facilities, and catalyze the supply chain for clean energy goods and services. The common ownership would also allow the project to be done at a greater and rapid scale than typical market-based schemes, thereby creating more consistent and stable demand while helping to foster various business models, such as energy service companies (ESCOs). As the markets and institutional capacities develop, and household energy pricing continues to move towards cost recovery levels, investment programs in the residential sector (where about 72 percent of the EE potential in building sector lie) will become more viable.

4. The project consists of four components: (i) EE investments in public buildings; (ii) RE demonstration investments in public buildings; (iii) RE and EE policy and regulatory support, as well as related RE resource assessments; and (iv) project implementation support. Details are provided below.

5. **Component 1: Energy efficiency investments in public buildings** (US$24.0 million). Under this Component, EE investments ("EE subprojects") would be undertaken in public facilities (both central-owned and municipal government buildings). It is expected that such EE subprojects will generate demonstrable energy cost savings and social co-benefits (e.g., improved indoor temperature and comfort, reduced occupant sick days, better indoor air quality). Specific criteria have been agreed and are provided below. Detailed energy audits will be conducted to identify economically justified EE measures (i.e., simple payback period under 10-12 years with adjustment for comfort levels) and would focus on typical building-level energy measures such as building envelope (windows, doors, wall/roof insulation), heating systems (boilers, piping and insulation, radiators, valves/controls, meters), fuel switching (lignite/oil to biomass or district heating when viable), cooling and ventilation, pumps/fans, lighting, and improved operations and maintenance practices. A limited amount of additional funds (5-10%) may be made available for costs not directly associated with EE measures but necessary to ensure a logical completion to the renovation works (e.g., wiring, painting, minor roof repairs).

6. Two sub-components are proposed. These include:

a) **EE investments in central government buildings** (US$18 million). There are some 330 centrally-owned government buildings across the country with more than 180,000 m^2 of floor area. Centrally owned buildings span several ministries, with the main users being Education, Health, Justice and Culture. All these buildings have very high energy use and most meet or exceed norms for internal comfort levels; estimates show administrative buildings consume 262 kWh/m^2 and hospitals 414 kWh/m^2, significantly higher than European levels with energy savings potential of over 40 percent. Under this subcomponent, it is proposed to finance all eligible EE investments in central government buildings—about 150-200 buildings—thereby significantly reducing energy use and public expenditures in heating and power services. Agreed eligibility criteria will include: (i) buildings must be owned by the central government (excluding publicly-owned enterprises); (ii) buildings must be structurally sound and not had a full EE renovation in the past 10 years; (iii) there are no plans for office moves, closure or privatization; and (iv) some buildings related to defense or police (e.g., prisons) would not be eligible.

   MED has established an Inter-ministerial Coordination Group that will be requested to nominate buildings to MED on a continuous basis. Other agencies with eligible buildings will also be encouraged to nominate their facilities through project communications channels. MED will screen the buildings, and if eligible, add them to the list of buildings for energy audits. Once audits are completed, the audit reports will be converted to detailed designs and prepared for renovation, in consultation with the line ministries and building administrators. MED will supervise all renovations and arrange for commissioning to be undertaken to ensure the energy savings are consistent with the audit reports.

b) **Pilot EE investment program for municipalities** (US$6.0 million). Municipal public buildings account for 1,480 buildings, representing some 2.36 million m^2, and include mainly local elementary and high schools, kindergartens, family health centers, and

municipal government buildings. The WBI study estimates that annual consumption of municipal family health centers, schools and other administrative buildings can save about 32 percent. The Law on Energy Efficiency foresees specific engagement in EE improvements at the municipal level through Municipal Energy Efficiency Action Plans. A key deficiency is a lack of financing, due to issues of municipal creditworthiness, restrictions on municipal debt and lack of viable financing mechanism for EE improvements. Until now, donors have either supported municipal EE programs through grants, which have targeted municipalities in greatest need but are not sustainable, or through loans to the most creditworthy municipalities, leaving many municipalities in the "middle market" unserved.

A pilot municipal EE financing program will be finalized during project appraisal to test schemes to accelerate the transition to more commercial financing, such as requirements for partial co-financing, partial payments to contractors based on actual energy savings, and mechanisms to allow the funds to revolve. The program is expected to involve 1-2 rounds of competitive calls in the latter years of the project for municipal proposals for grants to support building and street lighting improvements with some co-financing requirement, or possibly a budgetary mechanism to recover part of the funds. Selection would be based on EE potential (based on kWh/m^2) and ability to co-finance. This component would pilot such a municipal program to help MED formulate a broader program to address the full municipal market. Use of simplified ESCO contracts may also be considered under this component, where by a portion of the final contractor payment would be based on achieved levels of energy savings.

7. **Component 2: Renewable energy investments for heating in public buildings** (US$5 million). Kosovo has established a target for RE to support heating and cooling of its building sector for RE, including biomass, solar water heating and geothermal heat pumps, since current practices rely on fossil fuels, such as lignite and oil, electricity, or unsustainable biomass. Water heating, for example, represents 15 percent of heating demand and is primarily done today using electricity, which is inefficient. This component would support investments in select RE technologies in central government and municipal buildings to demonstrate the technical and market viability of such applications while helping to catalyze local manufacturing and supply chains. While several RE systems may be viable in the medium-term, the project would focus on conversion of lignite/oil boilers to sustainable biomass (e.g., use of wood chips, briquettes, pellets from underutilized wood residue) boilers and solar water heating (SWH). A 2013 Bank study indicated that up to 900,000 cubic meters per year of legal logging can be made sustainable and that it would result in 30 percent wood residue. Similarly, a 2013 SWH Bank-funded market assessment, estimated the SWH technical potential in public buildings at 19,100 m^2 (about €11.3 million of investment). RE system feasibility will be assessed as part of the energy audit studies conducted to support investments in government buildings under Component 1 and would be fully complementary. Installation of a critical mass of systems and dissemination of the costs and benefits (to be supported under Component 4) would help further develop this market.

8. **Component 3: Policy and regulatory support for RE/EE** (US$2.64 million). The Law on Energy Efficiency, 1st and 2nd NEEAPs, NREAP and other packages approved by GOK provide a strong base for sustainable energy development within Kosovo. Now, greater effort is needed to develop the necessary secondary legislation, regulations, rulebooks and other aspects to allow implementation to take place, while conforming with EU guidelines and helping them to

meet their obligations under the Energy Community Treaty. In addition, reliable and complete resource data is needed to help foster further investments.

9. Under this component, two subcomponents are proposed:

a) **Support to ERO for RE and EE development** (US$1.8 million). In order to meet Kosovo's stated RE goals, the further development of the regulatory regime is needed. ERO has proposed a plan to focus on four areas: (i) support for the regulatory regime as it relates to RE, including feed-in-tariffs (FiTs) (except for solar PV) and consumption-based DH tariffs to ensure an effective and economically efficient policy and regulatory regime; (ii) streamlining the permitting and licensing process, including mechanisms to monitor applications; (iii) support for formalizing the grid integration rules, including grid balancing, curtailment, etc.; and (iv) further analyses on FiT cost recovery mechanisms and impacts on consumer affordability. This package of regulatory support will also include stakeholder roundtables and public consultations, development of guides and information to potential project developers and ERO staff training. ERO will also undertake one detailed RE assessment (small hydro less than 10 MW), complete with site specific measurements, in coordination with relevant ministries and technical agencies, to provide more comprehensive and reliable data and analysis and disseminate it to potential project developers.

b) **Support to MED for EE secondary legislation** (US$0.84 million). While the EE Law is in place, secondary legislation remains underdeveloped. Under this subcomponent, support will be provided to MED to develop a sustainable municipal EE financing scheme (e.g., revolving EE fund) to scale-up the municipal EE pilot program under Component 1b. Other activities which are being discussed include the development of rulebooks to support implementation of the EU energy performance in buildings directive (EPBD) (in cooperation with MESP which is responsible for construction codes), development of standards and labeling regimes for building and construction materials (.e.g., windows, insulation), review of public procurement rules as they relate to energy efficient equipment and services (e.g., ESCOs), and relevant homeowner association (HOA) legislation to enable simplified decision-making, contracting and borrowing for EE measures among residential end users. A final plan for policy support will be agreed by project appraisal.

10. **Component 4: Project implementation support** (US$2.36 million). The project will also support the main implementing agency, KEEA, to help ensure effective project implementation of the other three components. This would include:

(i) creation of a project implementation unit (PIU) with in KEEA to carryout Components 1-3, including support for procurement, financial management, technical oversight, project monitoring and reporting;
(ii) technical studies and supervision, including conducting of building energy audits, development of detailed designs and bidding documents, construction supervision, project commissioning, building occupant satisfaction surveys, etc.;
(iii) targeted training of design firms, construction companies and other EE/RE service providers and information dissemination related to early project impacts and results, broad dissemination of RE investment and project performance under Component 2; and

(iv) training of KEEA and PIU staff to ensure effective implementation of the project and sustainability of project activities and goals.

Table 2.1. Component 4 Budget Breakdown

Subcomponent	Description	Cost
Project management	PIU staff costs, travel, project-related office equipment	$ 446,000
Technical studies and supervision	Energy audits, detailed designs, bidding document prep, construction supervision, commissioning, satisfaction surveys	$ 1,854,000
Contractor training, information dissemination	Contractor training, information and results dissemination	$ 40,000
MED training	MED, KEEA and PIU staff training	$ 20,000
Subtotal		*$ 2,360,000*

11. Grant funding in the amount of €700,000 has been mobilized from the Western Balkans Investment Framework (WBIF) to help analyze the investment needs and potential of the central government buildings. Specific outputs would include an update to the national public building stock inventory, completion of about 200 detailed energy audits in government buildings (for investments in Years 1-3), and an environment report about potential hazardous materials from the building renovations.

Annex 3: Implementation Arrangements

KOSOVO: Energy Efficiency and Renewable Energy Project

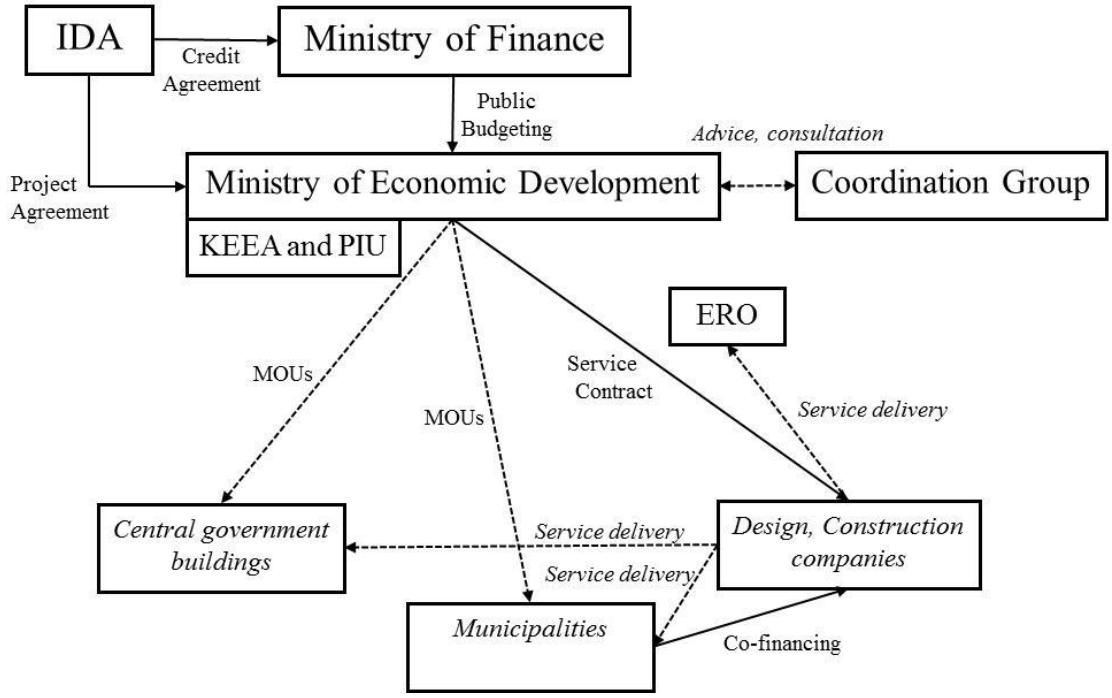
Project Institutional and Implementation Arrangements

1. KEEA, under MED, will act as the lead implementing agency for the project and maintain fiduciary responsibilities for all components. For this purpose, KEEA's capacity will be strengthened with consultant support for procurement and financial management and technical supervision and oversight. These consultants will form a project implementation unit (PIU) and will maintain responsibility for day-to-day implementation of the project under the management of the KEEA Chief Executive Officer. To ensure proper coordination with the various line ministries and subproject beneficiaries under Components 1 and 2, it was agreed that MED would establish a Coordination Group (CG), with invitations to relevant ministries (e.g., Finance, Education, Health, Public Administration, Local Government, Environment and Spatial Planning, Justice, Culture) to participate. The CG would be chaired by KEEA and would discuss issue related to project criteria, subproject pipelines, inter-ministerial coordination, budgeting and procurement, resolving of implementation issues, etc. For technical issues related to Component 3, KEEA will liaise closely with the concerned agencies (e.g., ERO, MESP, municipal association) on technical oversight of policy and regulatory advice, option papers, assessments and training to ensure proper coordination. A project Operations Manual (OM) is now under development to document project procedures, eligibility criteria, procedures for the full subproject cycle (identification to commissioning), procurement and environmental management plans, FM and disbursements, detailed implementation schedule, indicators, and reporting.

2. Since all eligible central government buildings would be included in the project, there is no need for selection criteria or approval procedures. About 40 audits already exist for central government buildings which would be updated and implemented first. Line ministries were requested by KEEA to provide basic information on their building stock and those that are eligible would be implemented in batches under the project. KEEA would also enter into tri-party Memorandums of Understanding (MOUs) with each building administrator and their line ministry, to clarify the roles and responsibilities of each party. An MOU template would be prepared and included in the OM, along with a full list of buildings to be renovated in the first and second years.

3. For the municipal pilot program (Component 1b), KEEA would launch the program around Year 3. Letters of invitation would be issued to all 38 municipalities with the basic information about the program. Municipalities would be encouraged to complete a short application with buildings they propose to be included in the program. Eligibility criteria for Component 1a would also apply to these buildings. In addition, selection criteria will be based on (i) the amount of energy savings (based on the energy use per area, or kWh/m^2); and (ii) ability for co-financing. The funds would be allocated in two calls for proposals, in Years 3 and 4, but implementation would take place in Years 4 and 5. As under Component 1a, KEEA and its PIU would hire firms to conduct detailed energy audits, prepare detailed designs and renovate the buildings. Tri-party contracts would be signed, since the municipalities would be required to cover a portion of the renovation contract, based on their agreed co-financing levels.

Figure 3.1. Institutional Arrangements



Financial Management, Disbursements and Procurement

4. Kosovo has participated in a number of detailed reviews of its public financial management (PFM), among them two central government PEFA assessments (2007 and 2009), a municipal PEFA (2011), a Country fiduciary review (2012), annual EU-SIGMA reviews, and other analyses by the World Bank. The various reviews have plotted the significant progress Kosovo has made in improving PFM. The Country Fiduciary Assessment conducted in March 2012 showed that key strengths of the system are the sound legal framework, integrated central treasury system, and an increasingly effective external audit office. The strengths are offset by limited professional and technical capacities and gaps in implementation. There is considerable scope for improving the quality of budget planning and preparation, internal financial control, audits, debt management, and capital investment management. The authorities are aware of these limitations, and progress is occurring with support from international bodies. Lagging areas as identified, include: (i) limited coordination of budgets, MTEF, sector plans, and budget ceilings; (ii) not fully linked Budget preparation with Treasury systems; and (iii) FM control and audits are not fully effective.

5. The Medium Term Budget Framework (MTBF) and the Annual Budget Law are the two main documents presented for Assembly review and approval. Public FM in Kosovo is highly centralized in relation to budget policy and institutional control. The annual budget covers 16 ministries, eight agencies, around 30 Independent Institutions, reserved powers, and 38 municipalities (although 3 municipalities only partially participate) – excluding resources and activities funded by Serbia.

6. Budget execution is controlled through the setting of allocation limits, which are based on forecasts of available resources and the individual needs of the spending institution, with due regard to seasonality of revenues and expenditures. The Treasury manages allocations through the year and controls budget execution and cash management based on the cash plan submitted by Budget Organizations themselves. The Kosovo Financial Management Information System (KFMIS) is an important tool in managing and executing the budget. In general internal control procedures are well understood. The Treasury is serviced through the Single Treasury Account (STA) with the CBK, through which all Government revenues and expenditures are recorded. Reconciliations between Bank and Treasury records are performed on a daily basis. The financial information is inputted into the KFMIS, which produces reports. Records and information are produced, maintained, and disseminated to meet decision-making control, management, and reporting purposes, as needed. Budget execution reports are by structure of the budget and present fund balance commitment on a monthly and quarterly basis for each economic category.

7. The system of municipal PFM in Kosovo is fully compatible and integrated with the PFM system that operates in central government. The strength of the existing PFM system is centered on the successful roll out of the financial management information system to the municipalities through training and certifying staff in its application. This has ensured that commitment control is applied in budget execution and that reporting on budget execution is timely and meets the need of management for effective decision-making. Basic ingredients necessary for a national PFM system are in place and are integrated. This includes: a) basic legislation which is modern, compliant with good practice, and updated as needed; b) annual budget legislation which provides yearly appropriations; c) an established annual budget process which includes all the necessary ingredients and which works on a familiar schedule; and d) specific units and staff in each municipality who have the designated responsibility for budget formulation and execution. The report of the Auditor General of 2012 has noted significant improvement in the quality of public FM at the municipality level over the past two years; however there remain areas for improvements.

8. The Project will rely extensively on the various elements of Kosovo's public FM systems, including: (i) planning and budgeting, (ii) internal control, (iii) flow of funds and payments, and (iv) accounting and reporting.

Financial Management

9. An FM assessment was carried out to determine the FM implementation risk and help establish adequate FM arrangements for the proposed operation. The overall FM risk is considered moderate.

10. Financial management arrangements in MED were reviewed. Bank policies and procedures on FM and disbursement require that the Borrower and the project implementing entities maintain FM systems—including accounting, financial reporting, staffing and internal controls, budgeting and planning, flow of funds and auditing systems—adequate to ensure that they can provide the Bank with accurate and timely information regarding project resources and expenditures. Areas that require further strengthening were discussed, recommendations and complementary actions were provided to ensure that project is implemented within a sound fiduciary environment and meet minimum requirements under OP 10.00, namely hiring of a qualified FM specialist (part time, or full time to be agreed), preparation of the project OM and training of MED budget and finance staff on Bank fiduciary and disbursement rules.

11. MED's Budget and Finance Division is responsible for planning and budgeting and processing of payments. The division reports to the Secretary General (SG) through the Director of Supporting Services and follows policies and procedures established by LPFMA and financial rule on public fund expenditure. MED has demonstrated to have adequate FM capacity and compliance with related legislation and rules. The most recent external audit report on the MED annual financial statements indicated that overall the FM controls are operating effectively; however recommendations for improvement were provided in the area of budgeting, allocation and cash flow forecast based on approved project implementation plan and procurement plan, and fixed assets management. From the FM perspective, the PIU will coordinate closely with the Budget and Finance Division on commitments and payment of project expenditures, and planning and budgeting of project activities to ensure funds are available for financing project expenditures, as well as preparation of quarterly IFRs. In addition, the FM specialist will prepare withdrawal applications including supporting documentation. Training on Bank FM and disbursement policies and procedures is required for the MED budget and finance division and FM consultant.

12. Budgeting. The mechanisms for budgeting and opening the budget (release of funds) in MED are considered to be adequate to cater for the needs of the proposed Project. The budget instructions issued by MEF will guide the MED budget planning and execution process. These instructions provide nominal ceilings for the various budget categories at the planning stage and approved allocations for the budget execution stage. A separate project code will be created for the proposed project. MED will be preparing the budgets for the project based on the procurement plan. These budgets will form the basis for allocating funds to project activities, and when expenditures are paid, for requesting funds from the Bank. MED will be supported by the PIU during the process. The FM specialist will prepare the forecasts based on technical inputs from the Project Manager and Procurement Specialist. The project annual budgets will be approved by the MED General Secretary.

13. The investment spending forecast prepared in accordance with Project Implementation Plan should be included in the MTEF and the Kosovo Consolidated Budget for 2014 and onward.

14. Internal controls. General government regulations for processing transactions and approving contracts exist. The MED will maintain an effective internal control system to ensure that project expenditures are properly verified and authorized; supporting documents are maintained; accounts are reconciled periodically; and project assets, including cash, are safeguarded. The Financial Management Manual to be included in the OM would set out the FM, disbursement and internal controls policies and procedures, and is intended to guide staff and minimize the risk of errors and omissions, as well as delays in recording and reporting. These written standards also clarify segregation of duties and responsibilities, including level of authority, clear control over funds and assets, and it ensures timely and accurate financial reporting. Policies and procedures for implementation of the project will be documented in the OM to be ready in draft form by negotiations.

15. Accounting System. MED's Budget and Finance Department, supported by the PIU, will maintain project financial records (budget appropriations, allocations, commitments, and actual expenditure) in the KFMIS (Free balance system) on cash basis. Similarly, the participating municipalities will maintain financial records on the use of co-financing of the renovations contract (Component 1b). The effective use of KFMIS will enable the generation of financial

reports. The project chart of accounts will be based on the KFMIS. Project funds will be accounted separately and identified by the project code. The chart of account and Interim Financial Reports (IFRs) format will be confirmed during project appraisal, and described in the OM.

16. Financial reporting. The MED Budget and Finance Department, supported by the PIU, will prepare financial information on quarterly basis and submit it through the IFRs containing at least (i) statement of sources and uses of funds (with expenditure classified by component and disbursement category), and (ii) KFMIS budget execution reports by component and subcomponent. The IFRs will be will submitted for Bank's review within 45 days from the end of the quarter. The annual project financial statements will be prepared based on IPSAS cash basis. The report will cover the fiscal year which coincide with the calendar year. The functional and reporting currency will be EUR. The format of IFRs and annual project financial statements will be confirmed during project appraisal, and described in OM. The financial reports will include financial information on municipalities co-financing when Component 1b is launched (Year 3).

17. Audit. The Project's Financial Statements will be audited annually by independent auditors, under Term of Reference acceptable to the Bank. The project will be audited under the existing auditing arrangements in Kosovo whereby the MEF contracts out independent audit firm to audit all World Bank-financed projects. World Bank procurement procedures will be followed for the selection of the auditors. The audit of the Project Financial Statements will be financed from the project. The audited project financial statements shall be presented to the Bank no later than six months after the end of the fiscal year and will be made publicly available in a timely fashion and in a manner acceptable to the Bank.

18. Financial Management Action Plan. An action plan has been prepared and will be agreed with MED to ensure that adequate FM systems are in place before implementation.

Table 3.1: Financial Management Action Plan

Action	Responsible	Completion date[4]
Project investment spending forecast in accordance with expected project implementation plan is adequately included in MTEF 2014-2016	MED/ MEF	April 15, 2014
Prepare project OM	MED	April 15, 2014
Provide specific training in FM and disbursements to existing finance staff in MED	World Bank	October 30,2014
Hiring of qualified FM specialist	MED	September 30, 2014

Disbursements

19. A majority of the project cost will be financed by an IDA Credit. The IDA Credit will be provided under IDA standard terms which will be agreed at negotiations. The GoK preferred method of disbursement is reimbursements of funds prefinanced from the budget to finance project expenditures. The other preferred methods by the Borrower are direct payments and special commitments to third parties (consultants, suppliers, contractors).

[4] This column presents the estimated completion date and is not an indication of legal conditions.

20. All payments will be made by the MED from its own sources of funds and no designated account will be needed. MED will prepare all the relevant documents in support of applications for withdrawal, sign it and forward it to the Bank.

21. The Bank will require either copies of the original documents evidencing eligible expenditures ("Records") or summary reports of expenditure ("Summary Reports") in such form and substance specified in the Disbursement Letter. Records include such documents as invoices and receipts or a statement of expenditure summarizing eligible expenditures paid during a stated period. In all cases the Borrower/MED is required to maintain original documents evidencing eligible expenditures and making them available for audit or inspection. These documents should be maintained for at least two years after receipt by IDA of the audit report and for a period required by local legislation. Further details on the project disbursement arrangements will be provided in the Project Disbursement Letter.

Table 3.2: Expenditure Categories

Category	**Amount to be financed by the Credit (in US$ equivalent)**	**Percentage of expenditures to be financed**
(1) Goods, works under Components 1, 2 (EE/RE investments in public buildings)	27,500,000	95%
(2) Consultant services, goods under Components 3, 4	5,000,000	100%
(3)		
Total	**32,500,000**	

22. Retroactive Financing. To facilitate prompt execution of project preparation, retroactive financing of up to €0.25 million will be provided to finance agreed upon eligible project expenditures incurred within 12 months prior to proposed project signing date and will follow the World Bank procurement guidelines. These pre-financed funds will be provided by the Borrower from its own resources and reimbursed to the Borrower after project becomes effective. Retroactive financing will finance PIU staff salaries (see implementation arrangements) and consulting firm to develop the detailed designs and specifications for the first batch of 50 central government buildings.

23. *Financial covenants* for the proposed Project will include: (i) maintaining adequate FM systems and controls throughout the life of the Project; (ii) maintaining records and accounts for the Project adequate to reflect the operations, resources and expenditures related to the Project; (iii) preparing IFRs and submitting these reports to the Bank no later than 45 days after end of each calendar quarter; and (iv) having Project financial statements audited annually by independent auditors under terms of reference acceptable to the Bank, and submission of the audit report to the Bank no later than six months after the end of such year audited.

Procurement

24. Procurement for the Project will be carried out in accordance with: (i) "*Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers*," dated January 2011; (ii) "*Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers*," dated January 2011; and (iii) the provisions stipulated in the Financing Agreement.

The World Bank Guidelines on "*Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credit and Grants,*" dated October 15, 2006 and revised on January 2011, would also apply. The general description of various items under different expenditure categories is provided below. The procurement for works, goods and non-consulting services would be conducted using the Bank's Standard Bidding Documents (SBD) for all International Competitive Bidding (ICB) and an acceptable bidding document to the Bank would be used for all National Competitive Bidding (NCB). The standard NCB provisions for Kosovo, as included in the Financing Agreement, would be applied to all the NCB contracts. A General Procurement Notice covering the project procurement activities will be prepared and published after Negotiations. Specific Procurement Notices will be published for all ICB and NCB procurement, as well as, all consulting services contracts as required under the respective Guidelines.

25. Procurement of Works. Works to be procured under the proposed Project would include rehabilitation/renovation of selected central government buildings and municipal facilities (Components 1 and 2).

26. Procurement of Goods. Goods to be procured under the Project would include office equipment and other goods needed for the effective implementation of the PIU.

27. Selection of Consultants. Consultant services to be procured under this Project would include: regulatory support for RE regulatory framework and grid integration; streamlined licensing procedures and tariff methodology; carry out RE assessment; operating procedures for an EE revolving fund; develop a rulebook for the Energy Performance and Buildings Directive (EPBD); review of the public procurement for ESCOs; HOA legislation; and energy-efficient building materials standards. Individual consultants would also be hired to support project coordination and implementation. The following methods would be used for selecting consulting firms depending on the nature and complexity of assignments, interest to foreign firms and need for international expertise, and estimated budget of the services: Quality and Cost Based Selections (QCBS), Quality Based Selection (QBS), Fixed Budget Selection (FBS), Least Cost Selection (LCS), Selection based on Consultants Qualifications (up to US$300,000), Single Source Selection in compliance with Paragraph 3.8 of the Bank's Consultant Guidelines, and Individual Consultants (IC). Contracts estimated to cost above US$300,000 equivalent will be advertised through United Nations Development Business (UNDB online), the Bank's website and local media (one newspaper of national circulation or the official gazette, and MED's website). Shortlists of consultants for services estimated to cost less than US$300,000 equivalent per contract may be composed entirely of national consultants under the provisions of paragraph 2.7 of the Bank's Consultant Guidelines.

28. Operating Costs. The expenses necessary to ensure proper implementation of the Project, including inter-alia communications, translations, interpretation, bank charges, office supplies, equipment maintenance and operations, cost of advertisements, mail and business trip expenses (transportation, fuel, lodging and per diem). Such costs will be financed by the project based on the annual budget prior reviewed and agreed by the Bank. Project funds will also finance PIU staff, but will not include salaries of officials of the Borrower's civil service.

29. Training and Study Tours. Training and study tours will be carried out based on the annual training/study tours to be prepared by the PIU, prior reviewed and agreed by the Bank.

The institutions for training/study tours would be selected considering the availability of such services, duration of training/study tour and reasonableness of cost.

30. Governance and Anti-Corruption Action Plan (GAC). The project will follow the Bank Group's Anti-Corruption policies as set forth in the Guidelines: On Preventing and Combating Fraud and Corruption in Projects financed by IBRD Loans and IDA Credits and Grants (current edition). The Bank team intends to maintain close oversight and will carry out prior review of all major contracts according to the thresholds that will be regularly reviewed and adjusted as needed in the procurement plan. The following measures will be carried out to mitigate corruption risk:

a. *Training of fiduciary staff* starting from project launch and periodically thereafter; training will be customized to the procedures and methods that would be required for the next 12 month periods. The relevant project staff shall attend the Regional Procurement Workshops organized by the Bank on a regular basis.
b. *Prior review:* There will be close supervision by the Bank's Senior Procurement Specialist. In addition, all contract amendments will be subject to prior approval by the Bank.
c. *Publication of Advertisements and Contracts:* All publications for advertisements and contract awards, including the results of the awards, will be done in accordance with the Procurement Guidelines and published in the Bank client connection system and on external websites, i.e., UNDB and Bank websites.
d. *Debarred Firms*: Appropriate attention will be given to ensuring that debarred firms or individuals (to be verified from the Bank's external website) are not given opportunities to compete for Bank-financed contracts.
e. *Temporary suspended firms*: Appropriate attention will be given to ensuring that temporary suspended firms or individuals (to be verified through client connection) are not given opportunities to compete for Bank-financed contracts.
f. *Complaints:* All complaints by bidders will be diligently addressed and monitored in consultation with the Bank.
g. *Tender Committee:* If required, the Bank will review qualifications and experience of proposed members of the evaluation committee(s) with a view to avoiding nomination of unqualified or biased candidates. All members will be required to sign a confidentiality/impartiality form.
h. *Civil Works supervision:* Contractors carrying out civil works will be supervised by technically qualified engineering staff (firms or individuals), selected by the PIU to ensure that quality specified in the contract is delivered in a timely manner.
i. *Monitoring of contract awards:* All contracts are required to be signed within the validity of the bids/proposals and, in case of prior review contracts, promptly after the Bank's "no objection" is issued. Procurement plan format shall include information on actual dates (of "no objections" and award) and will be monitored for cases of delay which will be looked at on a case-by-case basis to identify the reasons. The PIU will maintain up-to-date procurement records available to the Bank staff and auditors.
j. *Monitoring of payment vs. physical progress:* Monitoring reports prepared for the Bank will be customized to include a form to monitor physical progress compared to payment installments to avoid upfront-loaded payments.

k. *Timeliness of payments:* Payment to contractors, suppliers and consultants will be monitored through semi-annual IFRs to ensure timely payments. The PIU will maintain a system/database to ensure payments to the suppliers and contractors are paid without delay according to the conditions of the contract.

31. Procurement Capacity and Risk Assessment. Procurement activities will be carried out by the PIU established within KEEA. A detailed assessment of the MED's capacity to implement procurement actions for the proposed Project was completed in March 2014. The risk assessment rating for the entire project was done through the Procurement Risk Assessment and Management System (P-RAMS). Identified risks and proposed mitigation measures are described in the Table 3.3. The procurement risk is rated as **"high"**.

Table 3.3: Summary of Procurement Risk Assessment

Risk	Rating Before	Mitigation	Rating After
MED/KEEA staff lack capacity to undertake the proposed procurement work under the project, particularly regarding international procurement and unfamiliarity of Bank procurement guidelines and latest relevant SBDs.	High	Qualified procurement consultant familiar with Bank procurement procedures will be hired and will provide on-the-job training to MED's procurement department and to the bid evaluation committee members. The Consultant will provide assistance in the preparation of bidding documents, bid evaluation reports and contract agreements. Training in procurement under Bank guidelines will also be provided by Bank staff during the project launch workshop and implementation.	Substantial
Bid evaluation committee members are not familiar with international procurement procedures, and may obstruct or delay the procurement process, especially the evaluation of bids and proposals.	High	Consultant will provide assistance in the preparation of bidding documents, bid evaluation reports and contract agreements. The risk may continue to be high as some of the evaluation committee members may not agree with the consultant assessment.	High
Poor quality of bidding documents, including ambiguous technical specifications; unclear and unrealistic requirements, such as delivery, completion time which bidders would be unable to meet, and frequently no qualifications and experience.	High	KEEA to hire consultants to assist in the preparation of bidding documents/technical specifications, bid evaluation reports and contract management for highly specialized contracts. Create and maintain a database of sample specifications and prepare sample of technical specifications for items procured frequently.	Substantial
Faulty technical design may cause excessive variation orders. Poor quality construction may require remedial works.	High	The supervising engineers will review detailed design/technical specifications while preparing the bidding documents.	Substantial

32. Frequency of Procurement Supervision. Initially, procurement supervision will include prior review of contracts and procurement implementation support missions (part of project supervision missions) once every six months. Phone and video consultations will also be used for discussion of particular cases to speed up preparation of the tenders. Once the capacity of the implementing agency is strengthened, frequency of procurement supervision missions and prior review thresholds may be revised.

33. Post Review. All contracts below Bank's prior review threshold are subject to Bank's ex-post review in accordance with the procedures set forth in Appendix 1 to the Procurement Guidelines, and on a random basis. Periodic ex-post review by the Bank would be undertaken during regular implementation visits or as the Bank may request for any particular contract at any time. One in five contracts below the prior-review threshold will be post reviewed. A post review report will be prepared, shared with MED and filed in the procurement post review system.

34. Prior Review Thresholds. Prior review thresholds will be set up in the project procurement plan and will be generally based on the following requirements as stated in Table 3.4:

Table 3.4: Thresholds for Procurement Methods and Bank's Prior Review

Expenditure Category	Contract Value Thresholds for Procurement Methods (US$)	Procurement Method	Contracts Subject to Prior Review
Goods	>= 1,000,000	ICB	All ICB contracts
	<1,000,000	NCB	First 2 NCB contracts
	<100,000	SH	First contract
	NA	DC	All DC contracts (with justification)
Works	>=5,000,000	ICB	All ICB contracts
	<5,000,000	NCB	First 2 NCB contracts
	<200,000	SH	First contract
	NA	DC	All DC contracts
Consultant Services	>=300,000	QCBS/QBS/LCS/FBS a/	• >=$200,000 for firms • All SSS (with justification) • All TORs • First CQS contract
	<300,000	CQS	
	NA	SSS	
	NA	IC	• >=$100,000 for individuals • All SSS (with justification) • All TORs

Notes: a/ Shortlist may be composed entirely of national consultants for assignments of less than US$300,000 equivalent per contract.

35. Procurement plan. KEEA has prepared a draft Procurement Plan for the Project which also provides the basis for the procurement methods and thresholds. This plan will be agreed between MED and the Bank and will be published on the Bank's external web-site after negotiations. The agreed procurement plan will also be available in the Project files. The Procurement Plan will be updated at least annually or as required to reflect the actual Project implementation needs. A summary of the agreed procurement packages and their schedule are given in Table 3.5 below. The Bank will review the procurement arrangements to be performed by MED including contract packaging, applicable procedures, methods and the scheduling of the procurement processes to ensure conformity with Bank's Procurement Guidelines, the proposed implementation program and disbursement schedule.

Table 3.5. Procurement Packages and Time Schedule

Contract Package	Contract Description	Type	Procurement Method	Review Method	Expected Bid Announcement Date	Expected Contract Completion Date
1A.1	Renovation of Building - 1 (EE & RE) (Year 2015)	W	NCB	Prior	01/13/15	03/01/16
1A.2	Renovation of Building - 2 (EE & RE) (Year 2015)	W	NCB	Prior	02/14/15	03/31/16
1A.3	Renovation of Building - 3 (EE & RE) (Year 2016)	W	NCB	Post	02/13/16	03/01/17
1A.4	Renovation of Building - 4 (EE & RE) (Year 2016)	W	NCB	Post	03/14/16	03/31/18
1A.5	Renovation of Building - 5 (EE & RE) (Year 2017)	W	NCB	Post	03/14/17	03/31/19
1A.6	Renovation of Building - 6 (EE & RE) (Year 2018)	W	NCB	Post	03/14/18	03/31/19
1A.7	Renovation of Building 7 (Year 2019)	W	NCB	Post	03/14/19	06//28/19
3A.1	Regulatory support for RE regulatory framework and grid integration	CS	QCBS	Prior	12/10/14	03/31/16
3A.2	Streamline RE licensing procedures and tariff methodology	CS	QCBS	Prior	12/11/15	03/31/17
3A.3	RE resource assessment	CS	QCBS	Prior	06/02/15	06/30/16
3B.1	Development of EE revolving fund	CS	QCBS	Prior	12/24/15	01/31/17
3B.2	Develop a rule book for the energy performance and building directives	CS	QCBS	Prior	06/15/15	03/31/16
3B.3	Review of the public procurement for ESCOs	CS	QCBS	Prior	04/18/16	12/31/16
3B.4	HOA legislation	CS	QCBS	Prior	03/17/17	12/31/17
3B.5	Development of Building materials standards	CS	QCBS	Prior	06/04/17	02/10/18
4.7	Audits, detailed designs and Bidding documents for Components 1 and 2	CS	QCBS	Prior	01/07/18	06/28/19
4.8	Bidding Documents and Commissioning of Bids	CS	QCBS	Prior	01/07/17	06/28/18
4.9	Bidding Documents and Commissioning of Bids	CS	QCBS	Prior	01/07/16	06/28/17
4.10	Bidding Documents and Commissioning of Bids	CS	QCBS	Prior	01/07/15	06/28/16

Environmental and Social (including safeguards)

36. Environment. The Project is classified as Category B under the World Bank Operational Policy 4.01 Environmental Assessment. An Environmental Management Framework (EMF) for all components of the Project has been prepared and public consultations are being organized,

based on which the EMF will be finalized and disclosed in the Infoshop prior to appraisal completion. This Framework consists of an Environmental Management Checklist for the EE and RE components on the basis of checklists under similar projects in the region. The PIU has selected an Environmental Specialist. Environmental effects of the Project are expected to be mostly positive due to the energy savings, CO_2 emissions and local pollution avoided due to the Project. The main health and safety issues are expected from the civil works and resulting small quantities of hazardous waste from asbestos and mercury containing lamps which could arise from the renovation works.

37. The EMF contains a detailed overview of Kosovo legislative requirements and good international practices related to removal, handling and repackaging, landfilling and storage requirements of asbestos related materials and removal, handling, interim storage and treatment options for mercury containing lamps, which the Environmental Specialist in the PIU will oversee in cooperation with the Ministry of Environment and Spatial Planning (MESP). In addition, the Consultants hired under the WBIF grant are now assessing the investment needs and potential of the central government buildings. They will also under take an analysis of estimates of the quantity of asbestos present in the buildings and provide information on good international practices regarding removal, packaging, transport and recycling/disposal. This analysis will also be undertaken for other hazardous materials possibly present in the buildings, including mercury from lamps.

38. The team also investigated if any central government buildings eligible for renovation were registered with the Kosovo Council for the Cultural Heritage, which would require an additional permit based on the detailed renovation design. About 4-5 central government buildings appeared to meet this criteria, but it was agreed these buildings would be avoided. Still, the EMF and checklist include procedures for renovating these buildings in accordance with Bank policy and Kosovo's local procedures in the event there are not sufficient central buildings that meet the eligibility criteria.

39. Social. The Project will finance EE rehabilitation of existing public buildings owned by the central government and local government. Any subproject which would result to trigger of the Operational Policy on Involuntary Resettlement will be excluded from funding. This will be explicitly indicated in the OM. The implementing agency and the Bank's project team will have the responsibility to ensure observance of this provision during implementation. Thus, the project bears neither social risk from the social safeguards point of view nor other associated social risks. Rather, the Project has substantial positive social impacts. By investing and promoting EE in public facilities, through subprojects under Component one, wide segment of the economically disadvantaged population will benefit. Economically poorer population that cannot afford private facilities, especially in education and health, rely heavily on these public services and buildings. By investing in energy saving measures, the public facilities will be able to reduce their operating costs and improve service and comfort levels, without any economic burden being transferred upon the beneficiary. The project will also develop and implement pre- and post-renovation customer satisfaction surveys and social monitoring, to track the number of total project beneficiaries and co-benefits during implementation, disaggregated by gender. The social monitoring and assessment of the implementation of EE measures will be conducted to define subjective perceptions of end users, employees and users of public services on indoor comfort satisfaction and define the level of knowledge and awareness of EE. The social monitoring survey will be conducted over the project implementation period, and will be applied on a

selected sample of central government buildings. The work will assess 'pre-implementation' (i.e., before renovations), and 'post-implementation' (i.e., after renovation). The social monitoring will aim to measure: end users' satisfaction, perception of indoor comfort levels, awareness of EE, and additional benefits from the EE improvements (e.g., reduced sick days, increased productivity, increased budget for other priorities, etc.).

40. As the Project will retrofit public buildings it is expected that both women and men will benefit equally from the project in buildings where they are equally present. However, in buildings such as hospitals where staff are substantially female, the Project will provide increased comfort to them as well as especially vulnerable patients such as the elderly and children of both sexes. Although the project has no explicit gender activities, the number of female beneficiaries as a percentage of total beneficiaries will be monitored. Gender disaggregated data for the beneficiaries would be collected.

Monitoring & Evaluation

41. KEEA and its PIU will have primary responsibility for day-to-day monitoring of the project and individual subprojects. The PIU will develop a monitoring system to track ongoing project progress, procurement, investments and disbursements, energy audit data and energy commissioning reports. KEEA and its PIU will be required to submit biannual progress reports to MED management and the Bank for review. The outline of this progress report will be developed and included in the Project's Operations Manual.

42. For energy savings, data will be collected from the detailed energy audit reports to determine pre-project energy use and comfort levels. For each subproject, a post-project energy savings commissioning report will also be prepared to compare energy use and patterns and determine actual energy savings for reporting purposes. Variances between estimated and actual energy savings will be documented for improving future energy audit reports through training, case studies, etc. During the early years of project implementation, close Bank supervision will be done to assist the PIU in refining their monitoring system and internal capabilities. For RE, data will be collected from ERO based on their license application and approval database. The support for RE license monitoring under Component 3a will also help improve monitoring of such data as well as identify potential delays in developer permitting, etc.

43. A Mid-Term Review will be carried out to assess the overall project progress, identify critical implementation issues and make any necessary revisions to the project design, parameters or schedule as agreed. Key lessons learned and implementation experiences by KEEA, the line ministries and contractors will be documented through supervision and progress reporting in order to incorporate them into the sustainable municipal EE financing scheme to be developed under Component 3b.

Annex 4: Operational Risk Assessment Framework (ORAF)
KOSOVO: Energy Efficiency and Renewable Energy Project
Stage: Appraisal

Project Stakeholder Risks						
Stakeholder Risk	**Rating**		**Low**			
Description: Renovation of some central government buildings may result in lower comfort levels (in line with national norms). Some municipalities may perceive competition among donor programs, or be disappointed if not selected under the project. Some nongovernmental organizations could seek greater policy support for subsidies for EE/RE or view the project as insufficiently ambitious.	**Risk Management:** Clear information will be provided to all concerned ministries of the national importance for EE and need to conform with heating norms. Careful design of the municipal pilot program, clear and transparent selection criteria, close coordination with other donors/CG should mitigate perceptions of competition or overlap. During public consultations, etc. discussions on global experience with EE/RE programs, institutional capacity requirements, subsidy sustainability, etc. can be discussed and clarified.					
	Resp: Both	**Stage:** Both	**Recurrent:** ☒	**Due Date:**	**Frequency:** Continuous	**Status:** In progress
Implementing Agency Risks (including fiduciary)						
Capacity	**Rating**		**Substantial**			
Description: KEEA does not have experience with implementing Bank projects and fiduciary requirements, and there are a very large number of buildings to be renovated. KEEA is a new institution and has only three staff (one staff member was reassigned in June). Capacity of the EE service (audits, design) and construction industries remains weak and underdeveloped.	**Risk Management:** Strengthening of KEEA, establishment of a project implementation unit (PIU), formulation of simple procedures in the project Operations Manual (OM) will help mitigate implementation capacity issues. Initial, smaller procurement packages will help test early subprojects to identify weaknesses of industry. Deviation reports between actual and estimated energy savings will also be undertaken, along with some training based on early implementation experiences and lessons. Later, bundling of procurements will ease administrative burden on KEEA. Well-developed technical specifications, close construction supervision/technical oversight will help mitigate these risks.					
	Resp: Client	**Stage:** Both	**Recurrent:** ☒	**Due Date:**	**Frequency:** Continuous	**Status:** In progress

Governance	Rating	Low				
Description: The multi-sector program for renovation of central government buildings will require close coordination across several line ministries. KEEA governance remains underdeveloped since it is a relatively new institution with no experience implementing investment programs.	**Risk Management:** A project Coordination Group (CG) has been created and will convene periodically to agree on criteria, coordinate project activities among ministries, and address implementation issues. Project OM will clarify roles and procedures. Close supervision of KEEA, support with project planning and close document review in earlier years will help ensure adequate implementation quality and monitoring of project effectiveness. Dissemination of early results is also expected to lead to greater transparency of project impacts and learning from early experiences.					
	Resp:	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**	**Status:**
	Client	Both	☒		Continuous	In progress

Project Risks

Design	Rating	Substantial				
Description: Renovation of some 200 public buildings will require tremendous capacity of KEEA to be designed and implemented properly, as well as adherence to Bank requirements (procurement, safeguards). The project has several components, one new IA and a project CG. Demand for the municipal component could be lower than expected if co-financing requirement has to compete with other donor programs with full grant support.	**Risk Management:** The project has made every effort to simplify the design and plans to bundle design and renovation works contracts to reduce the number of procurements and contract management for KEEA. Recruitment of a strong and adequately staffed PIU, a strong OM, and careful oversight by the Bank team will be critical. Close Bank supervision and effective use of the project CG should minimize coordination challenges. Close donor coordination would be necessary to help avoid competing municipal EE programs.					
	Resp:	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**	**Status:**
	Both	Both	☒		Continuous	In progress
Social and Environmental	**Rating**	**Moderate**				
Description: While environmental and social impacts are largely expected to be positive, some adverse	**Risk Management:** Upfront consultations with MESP have been held to clarify KEEA obligations and ensure suitable facilities are available for hazardous waste (asbestos, mercury from lamps) storage and/or					

<table>
<tr><td rowspan="2">impacts (hazardous waste) may exist. KEEA's low capacity and GOK's underdeveloped environmental compliance mechanisms and supporting infrastructure pose risks of not fully complying with Bank or local requirements.</td><td colspan="6">disposal. Recruitment of qualified staff within the PIU to develop and carryout the EMF will be important, as well as strong early supervision of initial projects to ensure full compliance is being done and Bank requirements are clearly understood by KEEA, PIU staff and contractors.</td></tr>
<tr><td>Resp:
Client</td><td>Stage:
Both</td><td>Recurrent:
☒</td><td>Due Date:</td><td>Frequency:
Continuous</td><td>Status:
Not yet due</td></tr>
<tr><td>Program and Donor</td><td>Rating</td><td colspan="5">Low</td></tr>
<tr><td rowspan="2">Description:
Related donor programs are expanded to create overlap or competition with project activities.</td><td colspan="6">Risk Management:
Donor coordination is critical and is being addressed through periodic donor conferences, bilateral technical coordination, project level workshops and sharing of key reports, etc. Regional works by the Bank on scaling up EE in buildings in close cooperation with the Energy Community Secretariat will offer a roadmap for future building renovation programs within the Western Balkans region and is expected to help coordinate programs and scale-up impacts.</td></tr>
<tr><td>Resp:
Bank</td><td>Stage:
Both</td><td>Recurrent:
☒</td><td>Due Date:</td><td>Frequency:
Continuous</td><td>Status:
In progress</td></tr>
<tr><td>Delivery Monitoring and Sustainability</td><td>Rating</td><td colspan="5">Moderate</td></tr>
<tr><td rowspan="2">Description:
KEEA has weak capacity to ensure adequate contract administration and oversight. Renovations in early projects do not lead to expected energy savings.
PIU and technical capacity developed within KEEA is not maintained after the project closes.
Lessons from pilot municipal program are not followed-up, scaled-up in the future.</td><td colspan="6">Risk Management:
Component 4 will create a PIU that will support the day-to-day project oversight and FM, ensuing the overall progress and quality implementation. The PIU will prepare regular reports that will include the status of implementation as well as interim unaudited financial reports. Early audits are being done by an international consultant under WBIF grant and managed by the Bank.
Ongoing discussions under the project and afore-mentioned regional study will help identify more sustainable program structures that can be sustained beyond individual donor projects and scaled-up.
Ongoing dialogue with the CMU, GOK and other donors to agree on continued investments in the EE/RE sectors at the municipal level will help ensure continuity among programs.</td></tr>
<tr><td>Resp:
Both</td><td>Stage:
Implementation</td><td>Recurrent:
☐</td><td>Due Date:</td><td>Frequency:
Yearly</td><td>Status:
Not yet due</td></tr>
<tr><td>4.5. Other (Optional)</td><td>Rating</td><td colspan="5"></td></tr>
<tr><td>Description:</td><td colspan="6">Risk Management:</td></tr>
</table>

	Resp:	**Stage:**	**Recurrent:** ☐	**Due Date:**	**Frequency:**	**Status:**

6. Overall Risk

Implementation Risk Rating: Substantial

Comments:
Implementation risk is rated as ***Substantial*** due in part to the country and sector risks, the scope of the project and 5-year implementation period and KEEA's capacity. The future development of the energy sector will have major ramifications on the continued investment in the EE and RE sectors and on project sustainability. The multi-sectoral nature of the project (which spans several ministries) and KEEA's limited knowledge of Bank procedures (e.g., procurement, safeguards) will also need to be carefully managed and supervised throughout the project implementation period. The high volume of buildings to be renovated, technical complexity of buildings, limited availability of building drawings and energy use data, restrictions on MED annual budgetary spending, and limited managerial and financial capacity of local construction firms will all make full and successful implementation of the project within the implementation period a challenge.

Annex 5: Implementation Support Plan

KOSOVO: Energy Efficiency and Renewable Energy Project

Strategy and Approach for Implementation Support

1. The implementation support strategy was developed taking into account the risks and mitigation measures identified in the ORAF and targets the provision of flexible and efficient implementation support to the clients.

a. **Technical Support** – IDA implementation support missions will include an EE specialist and engineer throughout project implementation to help guide the use of the project criteria, audits and technical specifications, project commissioning, and policy dialogue. An RE specialist will participate as needed on the RE policy and regulatory support.

b. **Procurement** – A Washington-based procurement specialist will carry out ongoing supervision under the IDA credit. The specialist will also participate in project implementation support missions and site visits, respond to just-in-time requests and provide ongoing guidance to MED.

c. **Financial Management** – During project implementation, IDA will supervise the project's FM arrangements as follows: (a) during IDA's implementation support missions FM and disbursement arrangements will be reviewed to ensure compliance with IDA's minimum requirements; and (b) project's interim unaudited financial reports as well as the project's annual audited financial statements and auditor's management letter will be reviewed. An FM Specialist, located in the World Bank Tirana Office, is a core member of the project team and will supervise FM aspects during formal supervision visits and in-between as required.

d. **Safeguards** – The implementing agency, MED, requires capacity building on safeguard compliance functions. A Project Implementation Unit (PIU) within MED is now established and includes an Environmental Specialist. However, the implementation support will especially be needed to be provided by IDA specialists on Environmental Safeguards.

Implementation Support Plan

2. Implementation support is summarized below:

Time	Focus	Skills	Resource Estimate
Year 1	Task management	Project management (HQ based)	8 staff weeks (SWs)
	EE, technical reviews	EE engineer (Consultant, Skopje based)	6 SWs
	Review of bidding documents and contracts, procurement support	Procurement specialist (HQ based)	4 SWs
	FM supervision	FM specialist (Tirana based)	3 SWs
	Safeguards	Environmental specialist (HQ based)	2 SWs
Years 2-5	Task management	Project management (HQ based)	6 SWs per year
	EE, technical reviews	EE engineer (HQ based)	4 SWs per year
	Review of bidding documents and contracts, procurement support	Procurement specialist (HQ based)	2 SWs per year
	FM supervision	FM specialist (Tirana based)	3 SWs per year
	Safeguards	Environmental specialist (HQ based)	2 SWs per year

Annex 6: Economic and Financial Appraisal

KOSOVO: Energy Efficiency and Renewable Energy Project

1. Economic and financial appraisal of the project was conducted through a cost-benefit analysis of two detailed energy audits of centrally-owned government buildings. (Three additional audits were reviewed but significant revisions were requested. These audits will be revised and included in this Annex by Appraisal completion.) Economic costs and benefits were calculated at economic prices and exclusive of taxes and subsidies over a12-year period. The assessment of the financial costs and benefits was calculated at current prices and inclusive of taxes and subsidies over the same period. A price increase in line with inflation (1.5%) is assumed for both the economic and financial analyses. The investments in individual buildings are considered economically and financially viable if the NPV of economic benefits and cash flows are positive and the EIRR and FIRR are higher than the discount rates used.

2. Economic and financial appraisal was conducted for:

(a) The estimated total investment costs of the project based on the detailed energy audits conducted in two buildings in centrally-owned government administrative buildings. The results of these energy audits demonstrate representative viability for EE investments in similar centrally-owned facilities, and can be extrapolated to estimate total investment costs;

(b) Representative types of facilities to be financed under the project, i.e. centrally-owned administrative buildings. (The remaining three audits being revised include two universities and one central hospital.)

3. The Project will primarily finance EE measures including building envelop (insulation of walls, basements and attics, repair/replacement of external doors and windows), heating systems (connection to DH, boiler upgrade/replacement, automatic control systems, pipe insulation, balancing valves), and lighting (compact fluorescent lamps, light emitting diodes). The costs of these EE measures and expected energy saving are estimated based on the results of two energy audits, which were carried out by qualified international consultants under a grant provided by the Western Balkans Investment Framework (WBIF). The results of the audits conducted are summarized in Table 6.1 below.

Table 6.1: Results of Two Energy Audits in Centrally-owned Government Buildings

	Building type	Energy savings	Energy cost savings	Investment costs	Simple payback period	Energy cost savings potential	Energy savings potential
Unit		kWh, (%)	US$/year	US$	Years	US$/m^2	kWh saved/ US$ invested
Kosovo Statistics Agency	Administrative	530,641 (65.5)	77,261	175,220	2.3	32.0	3.03
Ministry of Culture building	Administrative	723,287 (52.6)	104,723	289,824	2.8	23.5	2.50

4. *Key assumptions for the economic and financial appraisal* – The economic and financial appraisal relied on the following key assumptions:

Table 6.2: Key Assumptions

All Buildings	
Average € exchange rate €/US$	0.74
Discount rate use for the economic analysis	8%
Discount rate use for the financial analysis	12%
Inflation	1.5%
Economic cost of electricity $/kWh	0.19
Economic cost of LFO $/kWh	0.14
Financial cost of electricity $/kWh	0.11
Financial cost of LFO $/kWh	0.08
Assessment period	12 years

Economic analysis

6. The main quantifiable economic benefit from EE investments in public buildings is the economic value of energy savings. Energy savings were valued at the estimated cost of electricity and/or Light Fuel Oil (LFO; heating oil) supply, depending on the facility and the heating option used before implementation of planned EE measures. An analysis that included CO_2 reduction benefits, valued at US$ 8 per ton of CO_2 (current voluntary carbon market price level), was also carried out. The main economic costs are the capital investment costs.

7. Energy efficiency investments will also generate economic benefits that were not quantified in this analysis, such as: (i) increased comfort level for occupants; (ii) improved quality of services provided by those facilities (e.g., improved indoor temperature and comfort, better in-patient hospital care, reduced student sick days); (iii) local environmental externalities; and (iv) improved real estate conditions (e.g., windows, outside walls, roof).

8. Results of economic analysis suggest that EE investments have robust economic rates of return and attractive simple payback periods of 2.2 and 2.7 years respectively. The results of the economic analysis for the representative buildings are presented in Table 6.3 below.

Table 6.3: Results of Economic Analysis for EE Investments

	NPV (US$)	**EIRR (%)**	**Payback (years)**
Kosovo Statistics Agency	432,947	46.4%	2.2
Ministry of Culture	538,252	37.8%	2.7

9. *Sensitivity analysis.* The key parameters, which may significantly affect economic viability of EE investments, are the investment costs and the estimated energy savings. The impact of defined variation in those parameters is presented in Table 6.4 below. The EE investments are economically viable under all of the sensitivity scenarios, with EIRRs ranging from 42.1% to 24.2% exclusive of the base case and payback within 2 to 3 years.

Table 6.4: Sensitivity Analyses for Economic Appraisal of EE Investments

	Investment costs (US$)	Energy cost savings (US$)	NPV (US$)	EIRR (%)	Payback period (yr)
Statistical Office of Kosovo					
Base case	*175,220*	*77,261*	*432,947*	*46.4*	*2*
Investment costs +10%	*192,742*		416,723	42.1	2
Investment costs +20%	*210,264*		400,499	38.4	2
Energy savings -10%		*69,535*	374,273	41.7	2
Energy savings -20%		*61,809*	315,598	37.0	2
Investment costs +10% and energy savings -10%	*192,742*	*69,535*	358,049	37.8	2
Investment costs +20% and energy savings -20%	*210,264*	*61,809*	283,150	30.4	3
Ministry of Culture					
Base case	*289,824*	*104,723*	*538,252*	*37.8*	*2*
Investment costs +10%	*318,807*		511,416	34.1	2
Investment costs +20%	*347,789*		484,580	31.1	3
Energy savings -10%		*94,251*	458,721	33.8	2
Energy savings -20%		*83,778*	379,191	29.8	3
Investment costs +10% and energy savings -10%	*318,807*	*94,251*	431,886	30.5	3
Investment costs +20% and energy savings -20%	*347,789*	*83,778*	325,520	24.2	3

Financial Analysis

10. The main financial benefit of the EE investments is the reduction of energy bills. The energy bill savings were valued at current effective electricity and LFO tariffs. The main financial costs are the capital investments. Results of financial analysis suggest that EE investments have less attractive financial rates of return and a longer simple payback period of 10 to 11 years. This is primarily due to the fact that the comfort levels in the audited buildings were below national heating norms of 20° C, and the prevailing electricity tariffs which are lower than neighboring countries. Since the proposed renovations will include bringing these buildings to national norms for indoor temperatures, the project will result in significant improvement of heating levels, not taken into account in the analyses. If the baseline energy costs were adjusted for comfort levels, the FIRRs would increase to 37-45%.

Table 6.5: Summary of Results of the Financial Analysis

	NPV (US$)	FIRR (%)	Payback (years)
Kosovo Statistic Agency	-75,387	0.4%	11.4
Ministry of Culture	-103,250	2.7%	10.4

11. *Sensitivity analysis* – The key parameters, which may significantly affect financial viability of EE investments, are the investment costs and the estimated energy savings. The impact of defined variation in those parameters is presented in the Table 6.6 below.

Table 6.6: Sensitivity Analyses for Financial Appraisal of EE Investments

	Investment costs (US$)	Energy cost savings (US$)	NPV (US$)	FIRR (%)	Payback period (yr)
Kosovo Statistics Agency					
Base case	*175,220*	*13,550*	*-75,387*	*0.4*	*11*
Investment costs +10%	*192,742*		-91,032	-1.1	12
Investment costs +20%	*210,264*		-106,677	-2.3	13
Energy savings -10%		*12,195*	-83,493	-1.2	12
Energy savings -20%		*10,840*	-91,599	-2.9	14
Investment costs +10% and energy savings -10%	*192,742*	*12,195*	-99,138	-2.6	14
Investment costs +20% and energy savings -20%	*210,264*	*10,840*	-122,889	-5.3	16
Ministry of Culture					
Base case	*289,824*	*25,997*	*-103,250*	*2.7*	*10*
Investment costs +10%	*318,807*		-129,127	1.2	11
Investment costs +20%	*347,789*		-155,004	-0.2	12
Energy savings -10%		*23,398*	-118,802	1.0	11
Energy savings -20%		*20,798*	-134,354	-0.8	12
Investment costs +10% and energy savings -10%	*318,807*	*23,398*	-144,679	-0.4	12
Investment costs +20% and energy savings -20%	*347,789*	*20,798*	-186,108	-3.3	14

Annex 7: Sustainable Energy Market Assessment

KOSOVO: Energy Efficiency and Renewable Energy Project

A. Energy Sector Background

1. At present, Kosovo is not able to meet energy demand with its current power supply assets. Most of Kosovo's domestic electricity generation comes from two aging and unreliable lignite-fired power plants (50-year-old Kosovo A, 30-year-old Kosovo B) with net operating capacity of about 900–950 MW. Both plants are poorly maintained and operate well below their installed capacity. After the planned decommissioning of Kosovo A in 2018, there will be a considerable supply shortfall, requiring new generation capacity.

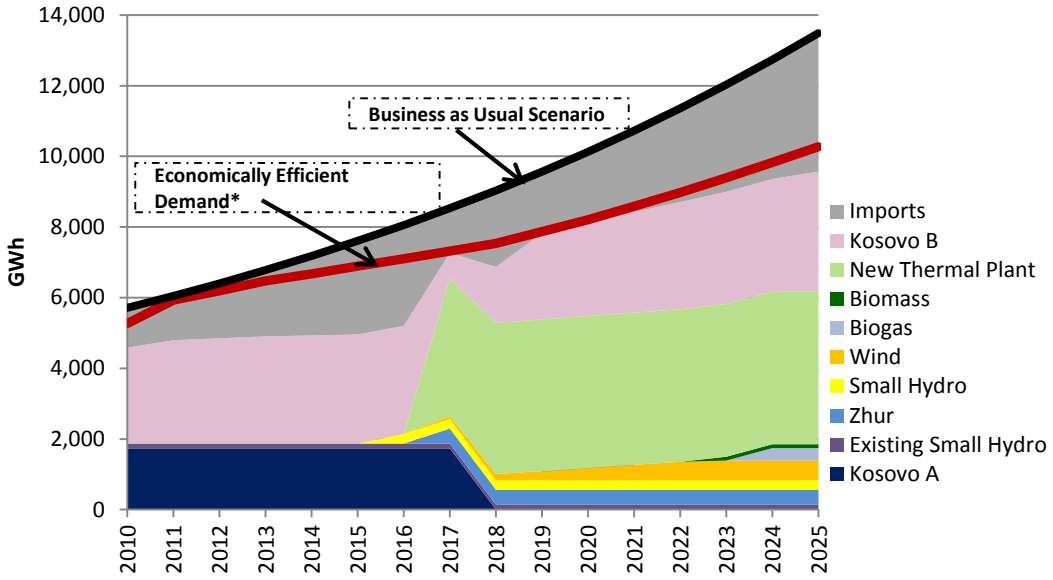
2. The 2013 electricity annual gross consumption in Kosovo was 5,520 gigawatt-hours (GWh). The balance between supply and demand has to be met by expensive electricity imports (annually around 10 percent, or about 625 GWh in 2012) or through load shedding. Electricity imports have accounted from 5 to 17 percent of total consumption since 2001 and average import prices have averaged €79 per MWh in the last five years; in 2012, KEK paid over €45 million, or 20 percent of their annual revenue, for imports. A USAID report on the Effect of Unreliable Power Supply on Kosovar Businesses (USAID, 2013) concluded that the financial burden to Kosovo businesses due to unreliable power supply is substantial. Kosovo businesses realize €359 million (7.7% of 2011 Kosovo GDP) in additional annual costs and losses due to unreliable power, when all costs (real and opportunistic) and losses (real and productive) are considered. This represents approximately 6.24% of total turnover, as reported by businesses.

3. Kosovo is especially energy supply-constrained during the winter months due to electricity demand for heating. The main energy sources for both space and water heating in Kosovo are biomass (mainly firewood) and electricity, each accounting for around 40 percent of consumption. Kosovo has two isolated operating district heating systems (Pristina and Gjakova), which only serve 3-5 percent of heat demand, face serious problems as the heat demand exceeds supply, and thermal losses are very high. The total installed capacity of 183.5 MW only produces 130 GWh/p.a. (thermal). Energy network losses for DH Termokos in Pristina are at 18% with high water losses. Electricity and unmanaged, unregulated firewood fill the remaining gap, but neither are sustainable options. Donors, most notably KfW, are working to ensure the Kosovo B power plant is cogeneration-ready, which would provide the necessary heat to the Pristina system. Combined with financial support to rehabilitate parts of the network, improve metering and billing systems, and investments to expand the network, these efforts would lead to significant energy savings and enhance the financial viability of the system.

4. Pressure on the energy sector will only increase as demand, including peak demand, rises along with economic growth. Electricity consumption and peak demand in Kosovo grew more than 90 percent between 2000 and 2010. In a Power Supply Options Study commissioned by the World Bank (Development and Evaluation of Supply Options in Kosovo, December 201), gross demand for electricity in Kosovo is forecasted to grow on average by 4.6 percent per year during the 2010-2025 time period and peak demand at an average of 4.2 percent during the same period. (see Figure 1). The Options Study envisions that the percentage of installed renewable energy and hydro capacity will increase from the current 3 percent (primarily hydro) of total generation capacity to 32 percent by 2025. Specifically, the Options Study base case scenario assumes: 305 MW large hydro (HPP Zhur), 60 MW small hydro, 257 MW wind, 18 MW biomass and 67 MW

biogas by 2025. The study assumed also an uptake of energy efficiency (EE) measures in its demand forecast and consequent sensitivity analysis.

Figure 7.1: Options Study: Required Supply & Gap



* Economically efficient demand assumptions include the impact of price increases (4.2% per year) as well as technical (from 17% to 8% during 2010 – 2025) and commercial loss reduction (20% to 5% during 2013 – 2015).
Source: World Bank, December 2011

5. The GOK recognizes these challenges and has ambitious plans to improve the current situation while seeking to comply with EU obligations as a potential candidate country. While current forecasts show that Kosovo's energy supply will continue to be dominated by lignite-fired power generation, significant improvements in EE and RE will be critical. In line with EU environmental regulations (Large Combustions Plant Directive), the GOK is committed to closing Kosovo A by 2018 and replacing it with a new, state-of-the-art, privately operated 600 MW coal-fired power plant (under the proposed Kosova e Re Power Plant, KRPP). Furthermore, as a signatory to the Energy Community Treaty and with ambitions of EU accession, Kosovo will need to comply with the EU energy acquis in areas of climate change and environmental protection as well as the EU's RE and EE targets[5]. A key component in addressing this challenge is strengthening the existing regulatory frameworks and institutional capacity in support of EE and RE investments. In response, the Government developed its Energy Strategy 2009-2018, which include: (a) private sector investment in a new lignite-fired power generation project based on best available technology; (b) privatization of the electricity distribution and supply business; (c) private sector participation in rehabilitation and environmental upgrade of the Kosovo B Power Station; (d) decommissioning of the Kosovo A Power Station by 2017; (e) development of RE resources (including small hydropower plants, wind, solar, biomass); and (f) improvements in EE.

[5] Kosovo is committed to setting mandatory national RE and EE targets through its membership of the Energy Community Treaty.

B. Status of Renewable Energy Development

6. According to the National Renewable Energy Action Plan (NREAP) 2011 – 2020 the share of energy from renewable sources (including biomass) in gross final consumption of energy in 2009 was 19 percent. As of end 2013, three percent of Kosovo's installed power capacity is from renewable energy sources. All of this installed RE is generated from hydropower, which totals just over 46 MW and includes one larger 35 MW plant (HPP Ujmani). Kosovo has 1.35 MW of installed wind capacity, but this is not operational. To promote private sector development of RE, the ERO has established RE feed-in tariffs (FiTs) as well as rules governing licensing, grid connections, etc. FiTs for wind generators have been set at €85.0/MW; biomass and biogas at €71.3/MW; and small hydropower plants (>10 MW) at €63.3/MW; all FiTs would be valid for a 10-year period. The regulatory regime also includes Certificates of Origin (CoO), but there is no clarity as to how these certificates will be issued or when and whether they will be applied as premiums in addition to FiT or only as a pre-condition or requirement for RE energy purchase.

7. Both hydropower and wind have begun to receive more attention from private developers, with 24 new RE applications totaling about 360 MW submitted since March 2009, of which 252 MW, or over two-thirds of the proposed additional capacity, were submitted in 2013. The ERO is currently working with the IFC to develop a methodology for a solar photovoltaic (PV) FiT. A cap has been developed using a capacity factor for each RE technology and targets are set by both produced electricity and installed capacity. Quantities that exceed the defined installed capacity limits will not be included in the FIT scheme. The ERO has stated that GWh limits will be imposed at the mandatory RE target of 25% in line with Energy Community Treaty obligations. The total allowable GWh amounts by 2020 broken down by RE source and are as follows: 10.3 GWh of solar PV, 37.5 GWh from solid biomass, 125.22 GWh from wind and 965.4 GWh cumulative hydropower (does not include 305 MW from Zhur; 47.89 GWh for <1 MW hydropower, 441.51 for 1–10 MW and 476 GWh for >10 MW). The 2020 maximum limits to meet Kosovo's voluntary 29.47% RE target are currently set at: 20.56 GWh of solar PV, 105 GWh from solid biomass, 302.22 GWh from wind and 436.5 GWh from hydropower (the latter does not include small hydropower or the 305 MW from Zhur). In addition, the GOK had just announced that it intends to create a Development Fund for Entrepreneurship and Employment, which will support Small and Medium Enterprises (SMEs) and corporations, including investments in RE. It is envisioned that the fund will be complemented by foreign sources, such as EU funds for economic development and European development banks.

8. RE Potential. In 2008, the European Commission commissioned an assessment[6] to estimate the resource potential of solar, wind, biomass and geothermal energy sources in Kosovo. According to the assessment, the total technical RE resource potential is about 9,500 GWh/year, but only a fraction of this would be economical. The GOK adopted its National Renewable Energy Action Plan (NREAP) for 2011 – 2020 in November 2013 committing the country to a 25 percent RE target (of gross final energy consumption) by 2020 with a voluntary target of just over 29 percent. The NREAP defines specific targets for three sectors: electricity generation (26 percent of RE in gross final consumption of energy; transport (10 percent of RE in final consumption of energy in transport); and thermal energy for heating and cooling (46 percent of RE in gross final consumption for heating and cooling). With regard to the electricity

[6] Assessment Study of Renewable Energy Resources in Kosovo. COWI, 2008.

sector, the NREAP foresees increased RE generation from 240 MW of small hydro, 305 MW of large hydro (HPP Zhur), 150 MW from wind, 14 MW from biomass and 10 MW from solar PV. The target for heating and cooling would be met by 95.2 percent solid biomass, 4.3 percent solar water heating and 0.4 percent from geothermal heat pumps. The NREAP and the Options Study assume between 707 – 719 MW of total increased RE capacity for electricity generation; the largest variance can be attributed to the NREAP assuming more small hydro (240 MW) while the Options Study assumes more wind (257 MW). The Options Study includes biogass (67 MW), but no solar PV and the NREAP includes solar PV (10 MW), but no biogas. Both assume 305 MW of large hydro and 14 – 18 MW of additional biomass.

9. Hydropower. Preliminary assessments carried out in 2006, 2009 and 2010 identified 77 sites for small hydropower sites for a total of 128 MW installed capacity with an annual average generation of 621 GWh. The studies did not, however, conduct any on-site measurements or monitoring which necessitates pre-feasibility and feasibility studies for specific sites. The NREAP outlines a series of envisioned actions with regard to hydropower including the development of 305 MW of new large hydropower, new small hydropower and the rehabilitation of existing hydropower. Kosovo currently has 46 MW of installed hydropower capacity and 202 MW in applications for registration and generation licenses submitted to the ERO. Of the 202 MW proposed, about 30 MW have been granted final authorization and are expected to proceed with financing and construction. This will increase current installed hydropower capacity by over two thirds.

10. Wind. A 2010 study funded by Swiss Renewable Energy and Energy Efficiency Promotion in International Cooperation concluded that there were very few areas with wind speeds exceeding 6 m/s a minimum needed for commercial potential in the region. The ERO issued a FiT of €85 per MW for wind based power generation which has successfully attracted several developers. By end 2013, the ERO has received a total of 7 applications for an installed capacity of 167 MW. Two of the applications for a total of 2.25 MW were approved by the ERO and the projects were installed. Their generation permits under the wind FiT were subsequently revoked by the ERO when the developer was not able to demonstrate they had installed new turbines using the latest technology (i.e. the turbine were secondhand). KfW is finalizing a Wind Atlas which will provide an overview of existing studies in the region and contain maps depicting average wind-speed, air temperature, Weibull-parameter, potential icing and solar radiation on different hub heights. Kosovo still needs rigorous wind mapping (i.e. specific ground measurements) that could reveal pockets of high wind sites in complex terrain. Such a study may be needed to bring additional developers and increase comfort levels of potential financiers.

11. Solar Water Heating. No solar maps have yet been produced for Kosovo, though limited measurements available for 37 of the largest cities/municipalities indicate that solar radiation (around 1,411 kWh/m^2 yearly irradiation on horizontal plane) and ambient temperatures (average yearly ambient temperature of 19° C) in Kosovo are suitable for solar water heating (SWH), but over 90 percent of hot water is heated with electricity in Kosovo. Given its strong solar resources, the development of SWH industry could prove an attractive heating alternative that would not only reduce peak demands, but it is also a more environmentally sustainable. SWH was also identified as the area with the most savings potential in the GOK's 2010-2012 National Energy Efficiency Action Plan (NEEAP). A 2013 World Bank-commissioned SWH market assessment study estimated the SWH technical potential in Kosovo at 860,000 m^2 in 2020 (about

€34 million of investment). Residential buildings make up the bulk of both technical (830,000 m^2) and market (€27 million investment) potential. For municipal buildings, the market potential (€1.29 million investment in 2020) is estimated at 25 percent of the technical potential (2,350 m^2). The total SWH technical potential corresponding to Central Government-owned buildings is estimated at 8,000 m^2 of collector area. The relevant investment cost is just over €5 million. It was not possible to assess the technical potential for industrial application in the report.

12. Biomass. Biomass is expected to make up 18 percent of the national target for 25 percent RE consumption by 2020 in the NREAP. Various types of biomass are available in Kosovo. The majority of Kosovo's biomass resource is from wood with other potential sources including agricultural and livestock waste (straw and manure). A World Bank 2013 study for Kosovo7 indicated that estimated annual consumption of wood is between 1 – 1.9 cubic meters, 95 percent of which is used for firewood. Approximately 61 percent of homes in Kosovo use biomass for space heating while 37 percent use electricity. Wood pellets could potentially contribute to meeting heating demand in a more cost-effective and sustainable way. Underutilized wood biomass residue, such as low-quality and/or small-diameter trees, waste from illegal logging or harvesting, short rotation of agroforestry trees and sawmill residue (bark, sawdust) can be processed into wood chips, briquettes or pellets. There is some experience with sustainable biomass (e.g., wood pellets) for heating, but this is still on a largely pilot basis. The report concludes that up 900,000 cubic meters per a year of legal logging is sustainable and that it would result in 30 percent wood residue, or 300,000 cubic meters, that could processed into pellets or chips. The ERO has set a FiT of €71.3 per MW for biomass, but does not yet have any projects that have applied for a generation license. The biomass FiT also encompasses biogas, but there is currently no assessed biogas potential in Kosovo. Manure-based biogas from livestock and biomass from forestry products and residues are possible sources of distributed (not grid connected) biogas generation in Kosovo.

13. Geothermal, Solar and Other Renewable Resources. To date, only indicative regional studies are available for geothermal and solar resources. A study by consultants Mercados has estimated solar PV potential at 77 MW, but achievable only at very high costs. With regard to geothermal, there is limited use of heat pumps for heating in buildings (mainly households with some larger geothermal system pilot projects in larger complexes) and some potential for modest increases in this application. For geothermal power generation, the results from available, shallow boreholes indicate low water and soil temperatures; temperature measurements in boreholes of 2-3 km depth would be required to provide a better basis for evaluation of possible available geothermal energy resources in Kosovo. For the time being, the ERO has no plans to develop a FiT for geothermal, but is currently working with the IFC to develop a solar PV FiT.

C. Current status of EE in Kosovo

14. Kosovo has a relatively high-energy intensity of 0.50[8] that is more than four times as high as the EU-27 average of 0.11 and the OECD average of 0.14; in the Balkans region, energy intensities range from 0.20 (Albania) to 0.57 (Serbia). The residential sector represents the largest portion of energy consumption at 39 percent (499 ktoe). Industry and transport make up

[7] Innovative Financing for Sustainable Forest Management in the Southwest Balkans. World Bank, 2013.
[8] Total Primary Energy Supply (TPES) divided by Gross Domestic Product (GDP); toe/thousand 2005 USD. *Source: International Energy Agency (IEA) Energy Indicators for 2011.*

27 (337 ktoe) and 23 percent (291 ktoe) respectively and services consume 9 percent (115 ktoe). The remaining 2 percent (21 ktoe) of consumption comes from the agricultural sector.

15. The National Energy Efficiency Action Plan (NEEAP) for the period 2010 – 2018 calls for a cumulative energy savings of 9 percent by 2018. Under the 1st NEEAP, which spanned three years, there were 38 EE measures implemented which resulted in exceeding the energy savings (3.1 percent) over the first 3-year period as reported by KEEA. The EE savings from measures during this period were split almost evenly between the residential and services sectors at roughly 10 ktoe each. The measures were concentrated in the residential and services sectors (public sector only). Select measures in the industrial, transport, agricultural sectors, which collectively account for 53 percent of energy use, were also included. Table 1 itemizes the targeted and actual savings for each sector during the 2010 – 2012 period as well as total envisioned savings through 2018.

Table 7.1: Indicative targets set for NEEAP 2010 – 2018 by sector

SECTOR	2010–2012 (ktoe) *1st 3 year period*		2010–2018 (ktoe) *Total 9 year period*	
	Target	**Actual savings from measures**	**Target**	**Estimated savings from measure**
I. Residential	12.40	28.05	30.64	46.98
II. Services	9.30	3.90	12.26	18.91
III. Industry (includes Agriculture sector)	7.90	n/a	24.84	14.00
IV. Transport	1.40	n/a	24.15	12.00
TOTAL	31.00	31.91	91.89	91.89
Savings as % of base consumption	**3%**	**3.1%**	**9%**	**9%**

Source: 2nd NEEAP, 2013-2015, Kosovo

16. Several key policy and program measures have been implemented to support the achievement of the NEEAP goals. In addition to requiring the Ministry of Economic Development (MED) to Energy Community Treaty obligations with regard to EE, the Law on Energy Efficiency mandated the creation of the Kosovo Energy Efficiency Agency (KEEA) in 2011. The agency has embarked on the update of the NEEAP (2nd NEEAP 2013–2015), has initiated promotional campaigns for the use of EE, and is also working with 10 municipalities to help them develop their local EE action plans and reporting. In addition, KEEA has been tasked with the establishment of a Commission for Certification of Energy Auditors. Measures related to the provision of building standards, information and labeling are also helping to stimulate the EE market. Table 2 describes the key EE policy and regulatory actions that have been implemented in Kosovo so far.

Table 7.2: Key policy and regulatory actions for EE in Kosovo

Law on Energy Efficiency	Obligates MED and municipalities to prepare EE action plans; MED to set up EE Agency and fund EE initiatives
Kosovo Energy Efficiency Agency	Established in 2011 to implement the Energy Efficiency Law
NEEAP 2010-2018	As committed to under Energy Community Treaty, indicative targets for EE savings set at 9% by 2018; updated every 3 years
Law on Energy	Approved in October 2010: Determines EE targets, encourages advanced metering systems, provides EE policy framework and subsequent implementation
Law on Construction	Important features related to energy performance of buildings: Building code norms for new and renovation works, implementation of EE measures, certificate of compliance with EE measures
Municipal Energy Efficiency Plans	Under Law on EE, Municipal Energy Offices required to develop Municipal EE Plans and Implementation Progress Reports (GIZ working with KEEA on 10 plans under EU funded project)
Secondary Legislation	Series of secondary legislation adopted (e.g., appliance labeling, energy auditing, etc.)

17. **EE Potential in buildings.** According to a World Bank Institute (WBI) building stock study completed in 2013, 47 percent of final energy consumption can be attributed to the building sector. The energy saving potential for the sector is 30 – 40 percent or 250 GWh/year. As a percentage of primary energy supply, energy savings potential for the building sector in Kosovo totals approximately 20 percent. The residential sector represents the lion's share of savings at 171 ktoe, private and commercial EE measures could save 47 ktoe and public municipalities and government-owned central would save a combined 20 ktoe (due to their much smaller cumulative surface area). Table 3 provides a breakdown of results by each building sector. To implement the necessary measures, an investment of €1.367 billion in the building sector would be required. At 80 percent, investment needs are primarily concentrated in the residential sector.

Table 7.3: Summary of results from Kosovo Building Stock Study

BUILDING SECTOR	Total Area (million m2)	Total Area (%)	EE Potential (ktoe)	EE Potential (% of primary energy supply)
I. Residential	34.72	76.9	171.74	7.86
II. Municipal	2.36	5.2	16.77	0.77
III. Public Central	0.18	0.4	3.60	0.16
IV. Private & Commercial	7.86	17.4	46.95	2.15
TOTAL	**45.12**	**100.0**	**239.05**	**10.94**

18. The simple payback period for municipal and central government buildings is 4 – 5.3 years adjusted for norm-based consumption, indicating a potential entry point into the sector and

potential to demonstrate EE viability for commercial financing in other sectors. The highest percentage of total energy savings can be found in the public centrally-owned building sector with estimated savings of 49 percent. The *Study of the Building Stock for Energy Audit*, commissioned by MED, identified 313 buildings owned by the central government. MED has recently completed approximately 160 energy audits for these buildings; 48 at the end of 2012 and 116 at the end of 2013. Typical EE measures that have been identified as necessary and feasible include thermally insulating of exterior walls, ceilings and pipes; replacing windows and radiators as well as installing thermostatic values on radiators.

19. Donors are active in the EE sector and, as evidenced in Table 4, several ongoing and planned EE investment projects focus on the public building sector but none at the central level. Although the majority of Kosovo's municipalities are not currently creditworthy, donors such as KfW are working with four municipalities that now have some limited ability to take on loans for EE implementation. The IFC is also in discussions with the government about the potential development of ESCO models for DH and industrial/SME EE projects.

Table 7.4: Ongoing and Planned EE Investment Projects

Donor(s)	Scope	Amount
KfW, EU, WBIF	Termokos cogeneration project to improve DH connection (up to substations), possible network rehabilitation	€26.2 million total €11 million KfW loan/grant €13.2 million EU grant €2 million Pristina grant
KfW, WBIF	WBIF study and implementation of EE measures in public buildings at municipal level; ~30 buildings	€7.5 million total €2 million WBIF grant €5.5 million KfW loan/grant
EC	Study and implementation of EE measures at municipal level; 65 buildings (ongoing)	€15.6 million EU-IPA grant
EBRD	KoSEP - Credit line for RE/EE projects in SMEs and household sectors through participating commercial banks	€15 million total €3 million EC grant €12 million EBRD loan