

Kosovo Energy Efficiency Fund – Best Practices and Tools for a Transformative Role

Policy Analysis



Kosovo Energy Efficiency Fund – Best Practices and Tools for a Transformative Role

Author: **Institute for Development Policy (INDEP)**

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Signs and Measures

CO₂	Carbon Dioxide
CO₂e	Carbone dioxide equivalent
GWh	Gigawatt-hour
ktoe	Kiloton of oil equivalent
KWh	Kilowatt-hour
GWh	Gigawatt-hour
M	Million
MtCO₂	Metric tons of carbon dioxide
MWh	Megawatt-hour

List of abbreviations

ECT	Energy Community Treaty
EC	European Commission
EE	Energy Efficiency
EED	Energy Efficiency Directive
ESA	Energy service agreement
ESP	Energy Service Providers
ESCO	Energy Service Company
ESMAP	Energy Sector Management Assistance Program
EU	European Union
GEF	Global Environment Facility
GHG	Greenhouse gases
IEA	International Energy Agency
IFI	International Financial Institutions
KEEF	Kosovo Energy Efficiency Fund
KEEA	Kosovo Energy Efficiency Agency
MEEAP	Municipality Energy Efficiency Plan
MEE	Ministry of Economy and Environment
M&V	Measures and Verification
MS	Member States
NGO	Non-Governmental Organization
NEEAP	National Energy Efficiency Action Plan
NZEB	Nearly Zero-Energy Buildings
RES	Renewable Energy Sources
SAA	Stabilization Association Agreement
SDGs	Sustainable Development Goals
TA	Technical Assistance
UNDP	United Nations Development Program
WBG	World Bank Group

1. Introduction

Our civilization runs on energy and our non-renewable energy resources are finite. Increasing demand is diminishing our unrenewable energy supplies at a much faster pace than we anticipated. Therefore, reducing energy consumption by increasing energy efficiency (EE) as well as switching to renewable sources, are some of the critical issues' society is facing today. Globally energy efficiency is increasingly understood as a key component of low-carbon energy policy¹. Energy is a critically important development enabler and central to solutions for a sustainable planet, as recognized in the 2030 Agenda and particular Sustainable Development Goals (SDGs) 7 "Affordable and clean energy"². The targets of SDG 7 include doubling the global rate of improvement in energy efficiency. According to the IEA report³, improving energy efficiency would reduce energy bills for consumers by more than \$500 billion per year.

Emerging economies face myriad challenges satisfying the energy needs of their growing populations. Without fundamental technological changes⁴, the growing consumption of energy in emerging economies also implies the emission of more greenhouse gases (GHG) into the atmosphere.

Despite some progress in the last decade in energy policy, energy efficiency remains an enormous challenge for Kosovo. The energy sector in Kosovo continues to suffer from a significant shortfall in electricity generation, in funding, coupled with an increase in energy demand and inefficient use of energy. Due to geopolitical developments, the war, and numerous economic problems, Kosovo can arguably be ranked as one of the least developed countries in the region concerning energy efficiency. The majority of houses in Kosovo, including old and new buildings, do not meet EE standards⁵.

Nonetheless, the low EE situation in Kosovo, both in terms of consumption and production, it offers a huge potential for energy savings cost-effectively. With energy demand expected to increase by 4.6% per annum, on average, improving EE in buildings has become an urgent requirement for economic development⁶. In Kosovo government spends over €24M annually for the energy bills of the public buildings and could save 20-30% annually through cost-effective EE measures.⁷ Just like in the rest of Europe⁸, and more due to its old state and insufficient effective heating, the residential sector consumes the largest share of energy resources with 32.8%. The World Bank estimates that the potential for improvement of EE in Kosovo is currently estimated

¹ International Energy Agency (2016), Energy Efficiency Market Report 2016. Paris: IEA.

² UN Sustainable Development Goals, Available online: <https://sdgcompass.org/sdgs/sdg-7/>

³ International Energy Agency (2018), Energy Efficiency Analysis and Outlooks to 2040; OECD/IEA: Paris, France.

⁴ International Energy Agency (2018), Energy Efficiency Market Report 2018. Paris: IEA.

⁵ World Bank (2013), National Building Energy Efficiency Study for Kosovo. EPTISA.

⁶ World Bank (2019), Available online: <https://www.worldbank.org/en/country/kosovo/brief/ee-in-kosovo>

⁷ World Bank (2015), Building Stock Study: Feasibility Study of Energy Efficiency and Implementation Measures in Public Buildings in Kosovo.

⁸ World Bank (2013), National Building Energy Efficiency Study for Kosovo. EPTISA.

at 44% with public buildings having the highest potential for EE savings⁹. This means that significant energy consumption savings can be achieved and these savings provide substantial budgetary savings for Kosovo budget as well as have a positive impact on reducing pollution and GHG.

In line with the EU 2020 strategy, Kosovo's National Energy Strategy¹⁰ one of the main objectives is the fulfillment of targets and obligations in EE, RES, and environmental protection. As a Contracting Party of the Energy Community Treaty (ECT) and as a signatory of the Stabilization and Association Agreement (SAA), Kosovo is obliged to transpose and implement the EU *acquis*¹¹ related to Energy Efficiency. However, Kosovo is not on track to reach its energy efficiency target.¹²

Besides, as stipulated in the Sustainability Charter of the Western Balkans¹³, by June 2018 financing mechanisms have to be established such as a "state-level fund for co-financing energy efficiency measures" resulting from the Energy Efficiency Directive (EED) 2012/27/EU especially in the public sector.

The continuous positive pressure from EU and local stakeholders prompted the Kosovo government to establish in 2019 the Kosovo Energy Efficiency Fund (KEEF) to support transformational change towards low-carbon, climate-resilient development. The fund is to act as a catalyst to develop energy efficiency projects in Kosovo's market. Therefore, this paper aims to provide an overview of best practices regarding the newly established Energy Efficiency Fund in order to provide the KEEF with a set of tools, concepts, and recommendations through which the Fund can organize its work and lay the groundwork for greater impact in the energy efficiency sector over the coming years.

Firstly, the paper presents a short history of EE, then sets out in more detail the status, structure, and operation of KEEF, characterizes its main providers, and discusses where and how concessional resources are most needed to address EE investment gaps in priority sectors. Then paper focuses on the transformative role of KEEF and considers its place in meeting the EE targets in Kosovo as well as future energy savings, and their relationship with energy companies.

Throughout the process of this research, some of the limitations have been met in different steps of the writing, from data gathering to data analysis. However, due to the world pandemic of coronavirus disease (COVID-19) the major limitation was in holding the interviews with the main stakeholders, particularly from the KEEF and KEEA.

⁹ World Bank (2019), Available online: <https://www.worldbank.org/en/country/kosovo/brief/ee-in-kosovo>

¹⁰ Energy Strategy of the Republic of Kosovo 2017–2026, Available online: https://mzhe-ks.net/repository/docs/Energy_Strategy_of_the_Republic_of_Kosovo_2017_-_2026.pdf

¹¹ The EU's 'acquis' is the body of common rights and obligations that are binding on all EU countries, as EU Members, Available online: <https://eur-lex.europa.eu/summary/glossary/acquis.html>

¹² Kosovo Energy Efficiency Agency (2017), 3rd National Plan of Action for EE (NEEAP) in Kosovo.

¹³ Western Balkan Sustainable Charter, Available online: https://www.energy-community.org/dam/jcr:3a24e29c-0c32-459c-83b9-7ba99448f2ca/WB6_SUS_Charter.pdf

To conclude, with the identifications for the suggestions for KEEF by considering practices from a longer-established sustainable KEEF is explored, with case examples from Armenia, Bulgaria, Croatia, Moldova, Thailand, and Romanian. Closing with recommendations about how to secure a strong, effective, and sustainable future for KEEF.

2. Methodology

This paper's primary aim is to identify the best tools for the KEEF to add value to the landscape of EE finance in Kosovo and meet EE targets. This is done by investigating analytically six case studies from regional and global EE funds. Then, the characteristics of these EE funds are compared with the characteristics of KEEF, and conclusions drawn on their likely success. Findings from both sets of analyses are brought together, along with reflection on broader trends in EE funds successful tools, to inform a discussion on the future role of KEEF. Thus, the information for the EE funds of six countries (Armenia, Bulgaria, Croatia, Moldova, Romania, and Thailand) was reviewed and the key characteristics of the selected EE funds were distilled from the literature.

Additionally, the analysis in this paper includes secondary data, obtained through online sources, such as governmental portals, World Bank reports, research reports, studies by local and international organizations, and so forth.

The criteria set to select the case studies where the similarities being in the same region Balkan countries having a similar revolving mechanism as well as have some relevance for the situation in Kosovo. In regard to the Armenian example, there are some interesting similarities between the energy sectors of Kosovo and Armenia, such as the fact that the main sources of heat supply for households are electricity and firewood and prices for both these energy sources are below their cost of supply. In both countries, a large proportion of households exist at low-income levels that prevent them from participating in any commercially based financing schemes. Another similarity is that there are housing association schemes in Armenia which operate with limited success, due to barriers in financing common projects. One reason for this lies in significant differences in the financial capacities of households within the same building. Concerning the EE fund from Thailand, the reason for the selection was because it is one of the first established EE funds in the world (1992) and there are many reports, information, practices, and lessons from this EE fund.

The examples selected have been motivated by EE funds mostly to analyze their challenges faced and solutions offered (pros and cons) and find out the best approaches, tools, and practices for sustainable funding and operation. Having said that, each example was designed to produce a lesson, good practice, or a tool for a sustainable KEEF. Next, we reviewed here the early experience and lessons from global EE Funds in developing and transition countries supported by World Bank, GEF, etc. Thus, the methods used in this paper are the review of academic and official literature on the six elected EE funds as well as a synthesis of data obtained. As well as an

in-depth analysis of the current Kosovo Energy Efficiency Fund has been explored to get a better picture.

To conclude, the paper is primarily based on the desk review of over 50 research papers related to EE funds and other EE financial mechanisms around the world.

Finally, the paper offers conclusions and recommendations that could form the bases of sustainable operation of KEEF.

3. History of Energy Efficiency and EE Funds

Dating back from ancient history man strived to do more with less and this imperative preserved until today when a man faced with the finite unrenewable energy sources tries to maintain its present lifestyle by using less energy.

The management of energy and improving energy efficiency has long been important for industry and commerce. Starting in the 1790s Boulton and Watt's steam engines produced competitive advantage because they were more fuel-efficient – and indeed they charged a share of the fuel cost savings in a way similar to today's energy performance contracts.

- **Energy Performance Contracting:** *We will leave a steam engine with you free of charge. We will install it and will take over the maintenance for five years. We guarantee you that the coal for the machine costs less than you spend at present for fodder (energy) on horses, which do the same work. And all that we require of you, is that we share the savings.* (James **Watt**).

The oil crisis that erupted in 1973, followed by spiking energy prices and shortages of petroleum, has led to the realization the world's energy resources might not be enough to keep up with humankind's consumption. In World War 2, fuel efficiency became vital to the war effort and the National Industrial Fuel Efficiency Service was set up to provide advice to industry on energy-saving measures as fuel shortages continued in the post-war years.¹⁴ Moreover, the concept of EE strongly became popular in the 1970s when some of the countries realized the potential of saving energy. Historically, the concept of energy efficiency has a long history in the USA, UK, Japan, and Germany. Pioneer in promoting energy efficiency was the state of California in the USA that began implementing EE measures, such as building codes and appliance standards, in the mid-1970-s.

The first EE policy in the USA is the Energy Policy and Conservation Act of 1975¹⁵ that responded to the 1973 oil crisis by creating a comprehensive approach to federal energy policy.

¹⁴ Fawkes, S. (2015), A brief history of Energy Efficiency, Available online:

<https://www.onlyelevenpercent.com/a-brief-history-of-energy-efficiency/>

¹⁵ Energy Policy and Conservation Act, Available online: <https://www.govtrack.us/congress/bills/94/s622/text>

US President Jimmy Carter issued the first executive order regarding energy efficiency and presented Congress with a National Energy Plan in 1977. Carter's National Energy Plan¹⁶ identified energy efficiency as a cornerstone because of the observation that "*conservation is the quickest, cheapest, most practical source of energy.*" The first State energy program was created in the early 1970s, and allocated more than \$3.1 billion for formula grants, which is currently being deployed in various programs across the US¹⁷. The ESCO concept, which was developed in North America in the late 1970s¹⁸, is often presented as a model delivery mechanism for energy efficiency retrofits in developing countries and emerging market economies. For instance, in the UK the Department of Energy launched a new energy efficiency program on December 9th, 1974¹⁹. Japan's first energy-saving policy was implemented in 1947; its energy policy became much more sophisticated after the energy crises of the 1970s²⁰. On the other hand, Germany's measures for thermal wall insulation were already implemented in 1978. Stemming from above said the creation of energy efficiency/conservation funds would precipitate two immediate measures, a mechanism to deliver EE services and a mechanism to monitor and evaluate the savings achieved. Countries around the world have used various types of financing and delivery mechanisms to support energy efficiency investments. Thus, Energy Efficiency Funds have been established around the globe, often with support from international financial institutions such as the World Bank or from climate finance instruments such as the Global Environment Facility.

Japan in 1978 established the Energy Conservation Center of Japan²¹. The UK Government set up the Energy Saving Trust in 1992. Elsewhere one of the first EE funds is the Energy Conservation Fund²² was established in 1992 in Thailand.

While in European Union (EU) provision of the Directive 2006/32/EC²³ in particular Article 11, provides that Member States (MS) save each year 1% more energy, mainly through energy efficiency programs and services. It explicitly mentions the creation of *National Energy Efficiency Funds* as one way to achieve this. Such measures shall include the promotion of energy auditing, financial instruments for energy savings, and where appropriate, improved metering, and informative billing. Further, the Directive 2012/27/EU on Energy Efficiency²⁴ Article 20 invites

¹⁶ Peters and Woolley, "Jimmy Carter: National Energy Program Fact Sheet on the President's Program.", Available online: <https://www.presidency.ucsb.edu/documents/national-energy-program-fact-sheet-the-presidents-program>

¹⁷ Alliance to Save Energy (2013), The History of Energy Efficiency, Available online: https://www.ase.org/sites/ase.org/files/resources/Media%20browser/ee_commission_history_report_2-1-13.pdf

¹⁸ Taylor, P. R., Govindarajalu, C., Levin, J., Meyer, S. A., and Ward, A. W., (2008), *Financing Energy Efficiency: Lessons from Brazil, China, India, and Beyond*, Washington: The International Bank for Reconstruction and Development / The World Bank.

¹⁹ Peter Mallaburn & Nick Eyre (2012), Lessons from EE policy and programs in the UK 1973 to 2012.

²⁰ Energy Conservation Center, Japan, "We Support Your Energy Conservation Activities." Available online: <https://eneken.ieej.or.jp/data/4746.pdf>

²¹ <https://seforallateccj.org/about-us/#background>

²² Yue et al.(2012), Case Study: Thailand's Energy Conservation (ENCON) Fund.

²³ Directive 2006/32/EC on energy end-use efficiency and energy services, Available online: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:114:0064:0085:EN:PDF>

²⁴ Directive 2012/27/EU on Energy Efficiency. Official Journal of the European Union no. 315/1.

Member States (MS) to establish dedicated financing facilities - *national energy efficiency funds* to support energy efficiency investment or use existing facilities. Finally, the revamped Directive 2018/844/EU²⁵ on energy efficiency sets a new, higher target of energy use for 2030 of 32.5%. This will only be achieved if Member States and ECT countries step up their efforts to keep primary energy consumption in check. This could be achieved especially in ECT countries with the increasing rate, quality and effectiveness of building renovation.

4. Institutional Framework of the Energy Efficiency Sector in Kosovo

In regard to energy efficiency, the main responsibilities have been designated to the newly named Ministry of Economy and Environment others to the Agency for Energy Efficiency and some minor responsibilities at the Ministry of the Infrastructure and Environment. As well as the Kosovo Energy Efficiency Fund.

◇ **Ministry of Economy and Environment**

The Ministry is the main institution in regard to energy efficiency policy-making and oversees all the energy sector in Kosovo. It was established in December 2004 under the name “The Ministry of Energy and Mining of Kosovo”.

There are a department and the agency responsible for energy efficiency activities under the Ministry:

- Department of Energy is responsible for formulating energy policy, as well as a strategic policy for energy efficiency and renewable energy;
- Department of spatial planning, housing and construction is responsible to propose policies, drafts and implements documents and strategies for the field of spatial planning, construction, housing, legalization, energy efficiency in buildings, regulation of the profession of architect and engineer in the field of construction
- Kosovo Energy Efficiency Agency is the primary government agency responsible for implementing and monitoring energy efficiency policies under the Energy efficiency Law.

◇ **Kosovo Energy Efficiency Agency**

The Kosovo Energy Efficiency Agency (hereinafter – KEEA) was established in April 2012. Throughout its mandate, the Agency worked with only three staff members. According to Article 6 of the old Law on Energy Efficiency main tasks of KEEA are as follows:

- Promote energy efficiency and develop and maintain the database on energy efficiency;
- Develop the system of monitoring implementation of the National Energy Efficiency Action Plan and achievement of the indicative targets for energy saving;

²⁵ Directive 2018/844/EU, Available online: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L0844&from=EN>

- Guide and support municipalities in the preparation of the municipal energy efficiency plans and their progress reports; and
- Promote information and educational activities in the field of energy efficiency, in cooperation with ministries responsible for energy, construction, and education.

◇ Kosovo Energy Efficiency Fund

Established in January 2019, is the main implementing entity that manages and distributes financial support to Energy efficiency Programs in Kosovo. More in-depth description regarding the fund in the following chapter.

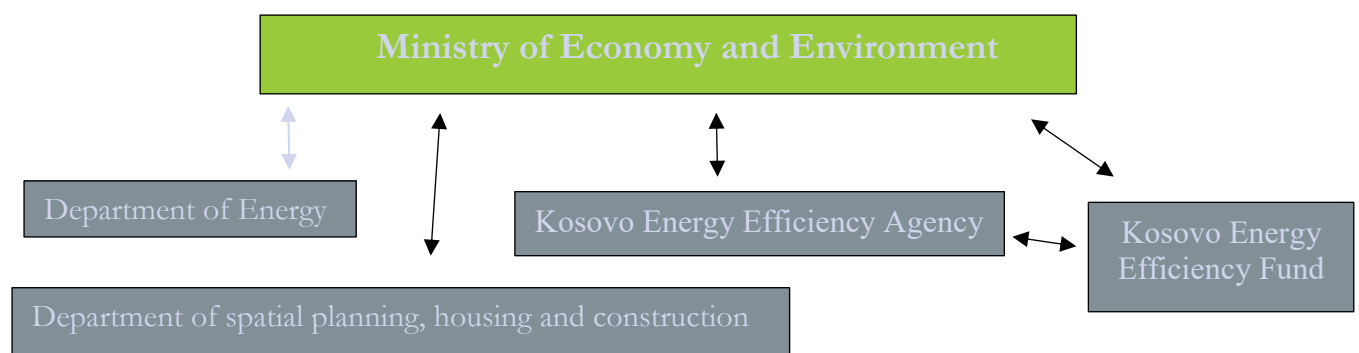


Figure 1. Short schematic view of the Energy Efficiency sector institutions in Kosovo (Source: INDEP elaboration).

5. Kosovo Energy Efficiency Fund

Kosovo followed general guidelines (Figure 1) from Energy Community Treaty²⁶, the EU directives, EC Progress Report²⁷, its national strategic documents and foreign best practices to develop a comprehensive EE financial mechanism – the Kosovo Energy Efficiency Fund. The Fund was adapted to its own economic and social context that will incentivize citizens to invest in EE more vigorously than they otherwise would do. Hence, this dedicated fund has the mission to build sustainable market-based capacity for developing and financing EE projects on commercial terms, demonstrate the financial profitability of investments in the EE sector and promote the development of a well-functioning EE market.

Further, KEEF serves as an independent service provider to the state to meet its political objectives in the field of EE through programs and projects that are integral part of National

²⁶ Energy Community Treaty, Available online: <https://energy-community.org/legal/treaty.html>

²⁷ <https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/20180417-kosovo-report.pdf>

Energy Efficiency Action Plans (NEEAPs), Municipal Energy Efficiency Action Plans (MEEAPs) and upcoming National Plan for Energy and Climate as well as other strategic energy policy documents adopted by the Government of Kosovo. Therefore, the KEEF operations will follow the “program approach”, by which it shall be a vehicle for financial assistance to the implementation of such projects. A seven-member Board²⁸ has been appointed to oversee operations of the KEEF, composed of representatives from the Ministries of Finance, Economic Development, Public Administration, the Association of Kosovo Municipalities, Managing Director of the KEEF and two (nonvoting) KEEF donors (the EC and the World Bank).

Currently, KEEF has seven (7) employees apart from the board and new staff is expected to be employed. KEEF ensures the following: co-financing on a national level; money from International donors; cooperation with savings banks (co-financing of interest rates) as well as ensures funds for expert’s provision; and promotion of the public calls.

The event roadmap to the founding of the KEEF is shown in the Figure 1 below:



Figure 2. Summary of KEEF establishment (Source: INDEP elaboration).

Henceforth, the KEEF is the main implementing agency of EE measures in public buildings. The KEEF aims to fund the programs and measures under the current and upcoming NEEAP. KEEF would enter into ESAs with eligible beneficiaries to renovate their buildings based on the ESCO system. Using ESAs all municipal investments supported by KEEF would be required to be repaid by the municipalities under these agreements.

²⁸ Regulation on Internal Organization, Employment and Remuneration of Staff of the KEEF, Available online: http://fkeerks.net/file/repository/2_IR_int_org_employment_and_remuneration_of_KEEF_ENG_19_2_2019.pdf

KEEF²⁹ sources of funding include:

- ◇ revolved capital invested in the form of ESA and other products;
- ◇ income from investments in the form of fees, charges, and interests;
- ◇ the interest income from deposited capital and assets; and
- ◇ capital contributions deriving from other sources such as the EE Obligation Scheme, and borrowings.

Table 1. Key parameters of the KEEF.

Characteristics	Kosovo Energy Efficiency Fund
Year Established	2019
Funding Sources	World Bank, EU and Kosovo government
Fund Objectives	Support the development and financing of EE projects in public sector (schools, kinder gardens, hospitals, and other public municipality buildings).
Legal basis	Established under Energy Efficiency Law No. 06/L-079 ³⁰
Legal organisation	Independent, autonomous and sustainable entity
Governance	Management board with 7 members (5 government, 2 non-government)
Fund management	Fund management team selected competitively
Main component	Energy Service Agreements (ESA), Non-refundable funds (grants), other financial instruments and incentives that may be developed by KEEF
Typical project	Rehabilitation of public buildings (schools, kinder garden, hospitals, municipal buildings) EE in Public Streetlighting, etc.
No. of Projects	N/A
Loan/ESA volume	€17 million ³¹ (15M Donors, 2M Government)
Lifetime energy savings	N/A ktoe
GHG reductions	20000 tCO ₂ e

Source: INDEP analysis.

As shown in the Table 1 above it was estimated by the specially designed financial model of the fund operation, that the EU-IPA €10M contributions to the KEEF will reduce GHG emissions³² by 20,000 tons/year.

²⁹ http://fkee-rks.net/file/repository/5_IR_on_General_conditions_of_Operations_22_08_2019_ENG.pdf

³⁰ Kosovo Law on Energy Efficiency, available online: http://mzhe-ks.net/repository/docs/LAW_NO.06_L-079_ON_ENERGY_EFFICIENCY.PDF

³¹ IPA (2017), EU Support to the Energy Efficiency Fund, Available online: https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/ipa_2017_040506.07_ks_eu_support_to_the_energy_efficiency_fund.pdf

³² Ibid. pp.18.

5.1 Legal and regulatory framework of KEEF

Driven by the commitment to and common vision of the Energy Community, Kosovo has developed the legal framework of its energy sector and EE in order to internally regulate the energy sector and ensure Treaty obligations are met and maintained. The Law No.06/L-079 on Energy Efficiency adopted in November 2018 transposes the Directive 2012/27/EU on Energy Efficiency.³³ The Kosovo EE Law creates the legal basis for improving EE by defining national energy efficiency targets and providing recommendation on the implementation of energy efficiency action plans.

According to the Articles 24 and 25 of the Law No. 06/L-079³⁴, the KEEF has been established as an independent, autonomous and sustainable entity, in supporting the policy objectives on EE of the Republic of Kosovo, by promoting, supporting and implementing EE measures, as well as attracting and managing financial resources in order to finance and implement investment projects in the area of EE in a sustainable manner. Table 2 below demonstrates in more detail the provisions of the EE law related to the Kosovo Energy Efficiency Fund.

Table 2. Main provisions of Kosovo EE law related to the KEEF.

Requirement specified in Kosovo EE Law 06/L-079	Main section for KEEF
a) Article 24	- the establishment of the KEEF, the founder Republic of Kosovo by this law.
b) Article 25	- provides the legal basis for the establishment of the KEEF as an “independent, autonomous and sustainable non-profit legal entity”
c) Article 27	- “board of directors”- 7 members (3-governmental, 1-association of Kosovo Municipalities, 1-managing director of KEEF and 2- independent members-non-voting).
d) Article 33	- “principles of operations”- the fund will operate n three year and annual programmatic basis. Activities will be in line with the NEEAP, programs implementing intentional agreements and other actions assigned to KEEF under the provisions of the law on EE.
e) Article 34	- to ensure its sustainability KEEF shall in principle operate in revolving mechanism. KEEF can maintain in parallel a non-revolving component to provide grants partial guarantees and other non-revolving financing instruments.
f) Article 35	-financial instruments-ESA and other types of agreements.
g) Article 37	- energy service agreements (ESA) shall be the principal instrument of KEEF for implementing energy efficiency investments in Public Entities under the revolving component.
h) Article 5	- designates the monitoring and verification platform (MVP) as the platform for monitoring energy savings under Kosovo’s NEEAP. In this platform measures supported by KEEF must be reported.

Source: INDEP analysis.

³³ Directive 2012/27/EU, Available online : <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012L0027&from=EN>

³⁴Kosovo Law on Energy Efficiency, Available online: http://mzhe-ks.net/repository/docs/LAW_NO._06_L-079_ON_ENERGY_EFFICIENCY.PDF

5.2 Structure of Kosovo Energy Efficiency Fund

Though the Fund does not distribute profits and is endorsed by the Kosovo Government it is operated as a commercially oriented public-private finance facility and it serves three major roles: *it is a lending institution, a credit guarantee facility and at the same time a technical assistance provider*. It provides TA to Kosovo enterprises, municipalities and residents in developing EE and RES projects and then provides their financing or co-financing or acts as guarantor towards other financing institutions or commercial lenders. The internal structure of the KEEF including personnel chart is described in detail in the Regulation on internal regulation of KEEF³⁵, which is envisaged in Article 42, paragraph 4.2 of the Law on EE. Bodies of the KEEF are the Board of Directors and the Managing Director. Figure 2 below depicts the institutional set-up and internal organization structure of KEEF consists of three service units (Secretariat, Main Office, and General Services) and two sectors (Finance and Operations). In the first 3-4 years of KEEF's operation, the envisaged number of KEEF staff is ten (10) including the Managing Director with a plan to be approximately doubled thereafter depending on the scope and complexity of KEEF's activities in the future.

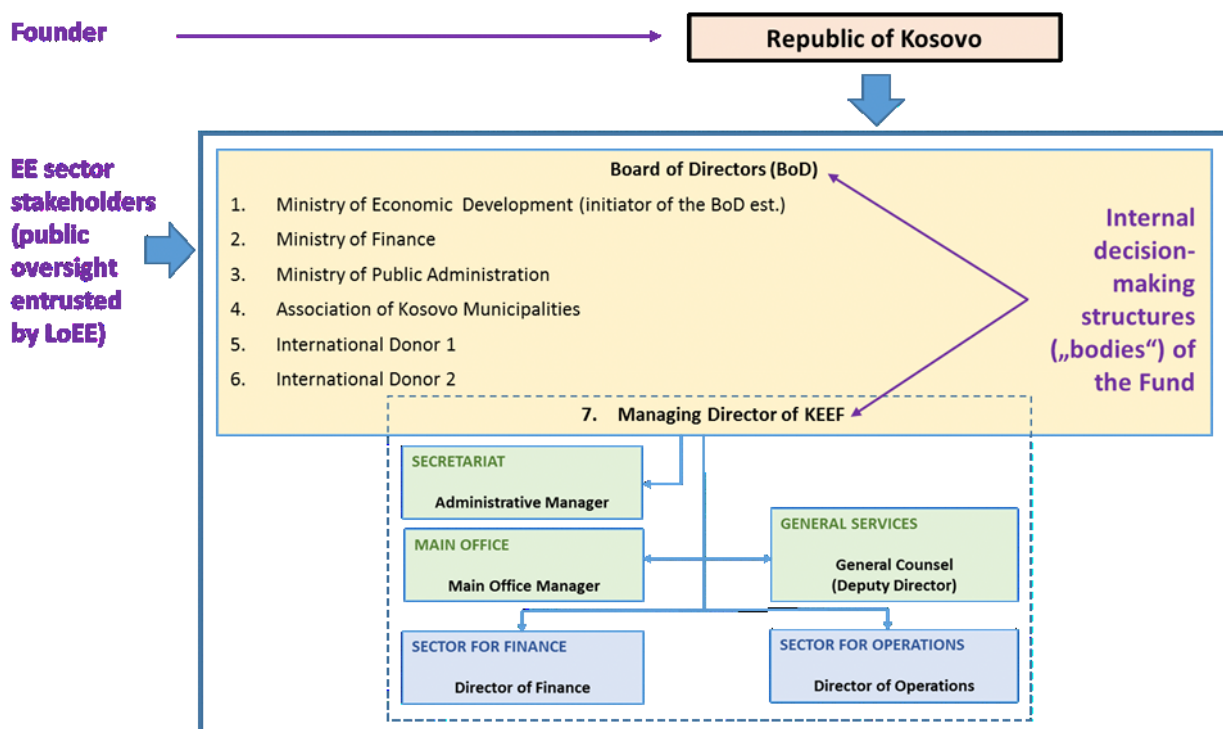


Figure 3. Institutional set-up of the KEEF³⁶

³⁵ Regulation on Internal Organization, Employment and Remuneration of Staff of the KEEF, Available online: http://fkee-rks.net/file/repository/2_IR_int_org_employment_and_remuneration_of_KEEF_ENG_19_2_2019.pdf

³⁶ Ibid. pp.38

In more detail under *Annex 1*, is presented the Internal Organizational Units of KEEF. Based on Article 39 of Law on Energy Efficiency³⁷, the KEEF shall be entitled to charge the recipient for its services. For providing financial support in the sense of implementation of its activities, the KEEF³⁸ shall use the following instruments: Energy Service Agreements (ESA), non-refundable funds (grants), and other financial instruments and incentives that may be developed by KEEF.

6. Review of best practices on global and regional Energy Efficiency Funds

The following section provides examples of financing mechanisms (EE funds) for EE projects mostly coming from East Europe and two from other regions which have some relevance for the situation in Kosovo.

Further, in order to obtain the best tools for a sustainable KEEF we have compared six EE funds mainly regarding the sources of funding, tools for managing and monitoring the EE projects as well as finding the best lessons from the selected funds. Therefore, in the section below, we summarize the best practices of the selected EE funds (provide a short description of the establishment, objectives, success projects, if the funds were sustainable, etc.). Within this analysis of six case studies additionally, a brief analysis (pros and cons) of the lessons learned from the selected EE fund is also presented (Tables 3-8).

Experience and lessons from best examples

There are numerous examples worldwide of using the Energy Efficiency Funds to meet the challenges of energy savings and energy reduction as well as lowering the GHG. The selected six regional and global EE fund examples are presented below:



Armenian Energy Efficiency and Renewable Fund

In 2006, the Energy Efficiency and Renewable Fund became operational as an Independent NGO based on the law on energy conservation and renewable energy.³⁹ The Fund is governed by a government-appointed board of trustees and comprises representatives from the government, private sector, NGOs, and academia.

The fund effectively targeted public facilities with the highest potential for energy savings, essentially harvesting low-hanging fruit, the broader project experience revealed that many public buildings in Armenia did not comply with the eligibility criteria. The Armenian Fund put significant effort into capacity building of construction firms, introducing them to performance-based contracting, a new procurement concept, and M&V of energy savings.

³⁷ Kosovo Law on Energy Efficiency, Available on: http://mzhe-ks.net/repository/docs/LAW_NO._06_L-079_ON_ENERGY_EFFICIENCY.PDF

³⁸ Article 4 of the Internal Regulation of KEEF, Available online: http://fkee-rks.net/file/repository/5_IR_on_General_conditions_of_Operations_22_08_2019_ENG.pdf

³⁹ Limaye, D., Singh, J., and Hofer, K., (2014), 'Establishing and Operationalizing an Energy Efficiency Revolving Fund', *World Bank Group*, pp. 3-36

The Fund developed its internal capacity and technical skills to identify, assess, and implement EE projects⁴⁰. Under the project, the Fund provided turnkey services (energy audit, procurement, detailed design, financing, construction, and monitoring) for energy efficiency upgrades in public buildings.

The Armenian Fund started revolving mechanism in 2012 for public EE projects using ESAs. The Fund has signed 73 ESAs totaling \$12M with an average project size is about \$150,000. All ESAs were repaid on time and all projects were subcontracted to local construction firms under simplified performance contracts to date, all have met or exceeded savings estimates. In addition, many new technologies have been introduced, since procurement is based on the highest net present value rather than the lowest cost.⁴¹ Instead of being developed as a direct payment agent to finance the retrofits, the Fund could have focused on enabling commercial financing by acting as an intermediary guarantee fund. As a guarantee fund, it could have fully de-risked principal payments to commercial banks on a rolling basis, thereby attracting commercial financing. However, because the Armenian Fund made direct payments, it largely decapitalized itself without leveraging its initial funding to attract commercial financing.

The project built a demand for EE financing in the public sector but the model has not become sustainable. Besides the subcontracting of private firms for design and construction, no other entities had a role in the market, for example, identifying projects, preparing financial appraisals, and conducting procurement. Most importantly, the Fund did not partner with a sizable number of commercial banks in a co-financing model. Therefore, there was no spillover⁴² effects and continuity, and no development impact beyond the project interventions.

The government did not provide support to the Fund to ensure scale-up and continuation of the EE financing model in the public sector, which is the only existing program currently in Armenia for these types of investments. A key message from Armenian example is that the fund in practice acted as a public ESCO being very appealing to public entities. Marketing and public awareness campaigns were critical in generating demand among public agencies for energy services. The Fund is helping to develop ESP capability in Armenia by involving ESPs in providing some of the implementation services. Low level of cooperation with the government. Additionally, there was a high percentage of application rejection creating higher administrative costs than expected. The use of ESCO can be replicated in the case of Kosovo too. The Armenian Renewable Resources and Energy Efficiency Fund provides a useful case study in that the energy sectors of Kosovo and Armenia share some common features. The main objective of the Armenian Fund was to provide subsidized funding to a large number of less well-off households unable to participate in other types of financing schemes.

⁴⁰ World Bank. (2016), Implementation Completion and Results Report: Armenia Energy Efficiency Project. Washington, DC.

⁴¹ https://webcache.googleusercontent.com/search?q=cache:GN3s70OnFEwJ:https://www.energy-community.org/dam/jcr:83399f2c-e356-4e1a-a596-afcb20e73dd/EECG_WB_062018.pdf+&cd=3&hl=en&ct=clnk

⁴² Energy Efficiency Project -Armenia, World Bank Report (2019), Available online: http://ieg.worldbank.org/sites/default/files/Data/reports/ppar_armeniaenergy.pdf

Table 3. Summary of pros and cons of Armenian EE Fund.

Pros	Cons
Provides firms with Capacity and training activities	There was no spillover effects no market development
Building and Industry – which knows its processes better than government – identifies cost effective measures	No cooperation and lack of support from the government
The Fund acted as a public ESCO .	Many buildings did not comply with the eligibility criteria

Source: INDEP expert analysis.

☑ **Bulgarian Energy Efficiency Fund**

The Bulgarian Energy Efficiency Fund was founded by the Energy Efficiency Act of 2004 and is a revolving loan scheme designed to facilitate sustainable commercial financing for energy efficiency projects. The fund is financed by fees collected by environmental taxes and used to support clients pursuing EE initiatives. Both the Bulgarian and Austrian governments allocated \$1.8M and \$2M to kick-start Fund. To fulfill its multi-faceted mission, the fund serves as a bank, a credit-guarantee facility, and a technical advisory company.

The Bulgarian EE Fund provides loans, partial credit guarantees (80% on a *parri passu*⁴³ basis, and 50% on first loss basis), as well as portfolio guarantees for ESCOs and the residential sector. The ESCO portfolio guarantee covers up to 5% of defaults of the delayed payments of an ESCO portfolio; with this guarantee, an ESCO can get better interest rates on its debt with commercial banks⁴⁴. Since delays in payments are more probable than the default of clients, the Fund acts as a financial buffer to take the shocks. The residential guarantee works in the following way: Fund helps the households in a building to develop a project.

Then a company is selected to implement the investment. The bank gives the funds to the project developer, but the repayments afterward come from the individual households. Each household pays proportionately to their built-up area. Fund guarantees that it will cover the first 5% of defaults within this block (or portfolio of blocks). Statistically, the default rates in customer loans are from less than 1% in some banks, to about 2.5-3%, so a guarantee of 5% will cover fully the risk of the commercial bank⁴⁵. The Bulgarian EE fund provided EE loans to a total of 185 projects, with the total project investment reaching more than USD 41.6 million.

⁴³ *Pari-passu* is a Latin phrase meaning "equal footing" that describes situations where two or more assets, securities, creditors, or obligations are equally managed without preference.

⁴⁴ Limaye, D., Singh, J., and Hofer, K., (2014), 'Establishing and Operationalizing an Energy Efficiency Revolving Fund', *World Bank Group*, pp. 3-36.

⁴⁵ Bertoldi, P & Rezessy, S. (2010), *Financing Energy Efficiency: Forging the link between Financing and Project Implementation*. Brussels: Joint Research Center of the European Commission.

The important lesson derived from Bulgaria’s case is the need to outline clearly the focus and scope of the operations that the energy efficiency financial measures will tackle. And its source of funding is sustainable because it is financed by fees collected by environmental taxes. Therefore, the example of Bulgarian EE fund, which has some similar characteristics to Kosovo, may provide a useful model for the source of funding coming from environmental taxes. And while this national program is replicable in other countries, it must be noted that the scope and technical capability is reflected by the conditions of the local market.

Table 4. Summary of pros and cons of Bulgaria EE Fund.

Pros	Cons
Provides firms with greater flexibility and high amount of monetary value in improving environmental performance	Slow and no repayment
Institutional structure is simpler and more flexible	Free riders → non-participants benefitting from actions of participants in energy sector-wide agreements
Fees from environmental taxes and more streamlined administration	Hard to meet investments to achieve high energy savings

Source: INDEP expert analysis.



Croatian Environmental Protection and EE Fund

Croatian Environmental Protection and Energy Efficiency Fund⁴⁶ was established in 2004 by the 2003 Act on the Environmental Protection and EE Act to strengthen environmental financing of conservation, sustainable use, and financing energy efficiency and renewable energy sources. The Fund manages the programs related to private asset owners, whilst those related to the public sector are under the direct control of the Agency for Transactions and Mediation in Immovable Properties⁴⁷. Until 2014, the fund co-financed EE renovation of nearly 1000 houses and the implementation of 3200 renewable energy source systems. Initially, the fund subsidized total investments in the worth of €3,15M. The Fund is established as an extra-budgetary fund, which means that financial sources for the Fund’s operation are not secured from the state budget. They

⁴⁶ General acts of Croatian Environmental Protection and Energy Efficiency Fund, Available on: http://www.fzoeu.hr/en/regulations/general_acts_of_the_fund/

⁴⁷ Assessing the potential future use of financial instruments in Croatia – Interim Report focusing on EE/RES sector, available online: https://www.fi-compass.eu/sites/default/files/publications/4-Assessing-the-potential-future-use-of-FI-in-Croatia_TO1_TO4_TO7.pdf

are secured from different kinds of environmental fees⁴⁸, all of which are following the ‘polluter-pays’⁴⁹ principle.

There are a number of environmental fees imposed of Croatia, such as fees for emissions, charges on burdening the environment with waste, and special charge for motor vehicles.

Financial incentives provided by the Fund may be in the form of a grant or interest-free loans⁵⁰. However, although EE was gaining its momentum in the last few years in Croatia, it still is facing the usual barriers to a wider implementation not fully recognized all the benefits resulting from improved EE and poor financial capacities of citizens and entrepreneurs.

Therefore, grants remain the main form of incentives provided in Croatia for energy efficiency. Having in mind the types of these barriers (availability of information, administrative burden and technical capacities for project development and preparation), the Fund, as policy implementer, applied the following approach: (Visibility and communication, simple and clear application procedures, and support to the monitoring of project implementation. Linking strong promotional activities with easy application procedures and continuous support offered to project developers proved to be a way forward.

The Residential EE program is the most successful program from the Croatian fund. It started with a promotional video that was prepared to show a motivational family story – an example of a successful renovation and aired on national television and via social media. More than 30 public events were organized throughout Croatia and finally, info office at the Fund’s premises and toll-free line for citizens was established as a form of continuous support to anyone willing to apply for subsidies or just wanting more information on possibilities for EE improvements in their homes.⁵¹

Furthermore, the design of the subsidy scheme was significantly changed in 2015. Namely, before 2015 the subsidies were available to homeowners only through local authorities (local authority would apply for a subsidy to the Fund and, after the approval, it would announce a call for citizens and perform the selection process). This approach has led to the situation that not all citizens of Croatia had an access to subsidies, but were dependent on the willingness of their local authority to participate in the program. Therefore, in 2015 it was decided that the Fund will become a one-stop-shop for all citizens willing to refurbish their houses and benefit from state subsidies for that purpose.

The results were exceptional – more than 9.300 citizens were awarded subsidies for the energy refurbishment of their family houses. Approximately 13.000 EE and RES measures were applied in those houses⁵². This is an important lesson for other funds. Benefits in terms of energy savings are clearly marked by the energy class of the house, while economic benefits are in more than €700 lower heating bills annually. The Croatian model of having integrated the environmental sector as well as the use of environmental fees is applicable in Kosovo.

⁴⁸http://www.fzoeu.hr/en/environmental_fees/fees_pursuant_to_the_act_on_the_environmental_protection_and_energy_efficiency_fund/

⁴⁹ The ‘polluters pay’ principle foresees that those who produce pollution should bear the costs of managing it to prevent damage to human health or the environment.

⁵⁰ Environmental Protection and Energy Efficiency Fund Types of Grants, Available online:

http://www.fzoeu.hr/en/use_of_funds/types_of_granting_fund_appropriations/

⁵¹ Environmental Protection and Energy Efficiency Fund Activities of the Fund, Available online:

http://www.fzoeu.hr/en/about_us/activities_of_the_fund/

⁵² <https://balkangreenenergynews.com/supporting-energy-efficiency-and-renewables-in-croatia-the-role-of-environmental-protection-and-energy-efficiency-fund/>

Table 5. Summary of pros and cons of Croatian Environment and EE Fund.

Pros	Cons
Free energy audit and a one-stop-shop for all citizens.	Seasonality of the programme , possible to apply only in the time of public calls
High Visibility and communication with info office at the Fund’s premises and toll-free line for citizens	Inconsistency of the programs in regards to estimated forecasted level of funding
Easy application procedures and database of projects implemented showing the results	Only local authorities can allow participating in the project

Source: INDEP expert analysis.

The Croatian experience points out that the right way forward is in a comprehensive approach that will simultaneously tackle all perceived barriers – information, capacities, and financing. An important lesson from Croatian example is that the efforts should be specially made in providing sufficient and useful information which will serve as a basis for decision making. Information should contain information from already implemented projects in order to prove that energy efficiency really works in practice and has many “wins” to both individuals and society as a whole. As well as the use of funds as a one-stop-shop for all citizens.

Energy Efficiency Fund in Moldova

The Moldovan Energy Efficiency Fund was established in 2012 with the provisions of the Energy Efficiency Act and the Renewable Law.⁵³ The Fund Administrator is a physical or juridical person from the Republic of Moldova or from abroad, selected in line with the World Bank procedures. The main objective of the Fund is to attract and administrate financial sources for the implementation of EE and RES projects. It is an independent legal entity, governed by a nine-member Board. The Board is supported by an Investment Committee, consisting of three Board members.

The Fund operations are managed by an Executive Director and a staff of currently 16 persons. The Fund is supported by a Fund Administrator, contracted separately by the Ministry of Economy. Financial sources of the Fund include state budget allocations, at least 10% from the total volume of available resources, needed to reach the targets on EE and RES sectors. Other financial sources: donations from physical and juridical persons from Moldova and abroad, IFIs and strategic partners, financial income from interests and commissions; loans, and other financial instruments.

⁵³ Energy Efficiency Fund of Moldova, Available online: <http://www.fee.md/index.php?pag=page&id=366&l=en>

The Fund is a “revolving fund” supplied from funds’ reimbursement and payments of interest and commissions. The Fund offers the following financial instruments: grants, guarantees, loans, and leasing. The Fund has organized several rounds of Calls for Proposals, for investments in EE and renewable energy. The Fund also assists the beneficiaries with TA during project implementation and monitors results.

Funds team has presented the detailed information on the existing objects and the evolution registered by setting up an easier mechanism for processing the files related to the projects implemented by entrepreneurs, as well as the up-to-date status of the post-implementation project monitoring procedure. There have been made some modifications of the Grant Agreements for EE measures and the valorization of RES in buildings and the efficiency of public lighting systems in public procurement procedures and the application of more drastic penalties if essential deviations from the obligations of the Grant Agreement are identified. However, due to site visits were identified deviations from the quality implementation of EE measures for most projects, to remedy that the fund will endeavor imperative measures in collaboration with Beneficiaries. In case if it will be impossible to remedy the nonconformities, Fund will decide on the termination of the signed Grant Agreements, with the obligation of project beneficiaries to return all grant contributions of the Fund, paid until the termination of the Grant Contract.⁵⁴ The decision on creation of "blacklists" of energy auditors, construction estimators, project (technical design) verifiers and quantity surveyors comes as a result of the analysis of the drawbacks identified in the process of evaluation of the services provided by the respective specialists, within the Fund’s projects evaluation and implementation process.

In this context, the FEEF will notify the national entities, responsible for certifying specialists of the respective categories and the competent authorities in order to sanction them for providing the non-qualitative TA to the project beneficiaries.⁵⁵ A key takeaway from Moldovan is that they set the “blacklist of energy services” and project penalties or even contract termination. This means that the KEEF needs to be very careful in regard to the energy auditing experts and their analysis.

Table 6 Summary of pros and cons of Moldovan EE Fund.

Pros	Cons
T&A and M&V	Low implementation quality of EE measures
Creation of "blacklists" of energy auditors, construction firms etc.	Free rider problem - grants are not linked to social and financial status
Potential penalties and more streamlined administration	Hard to meet Investments to achieve high energy savings

Source: INDEP expert analysis.

⁵⁴ Energy Efficiency Fund of Moldova, Available online: <http://www.fee.md/index.php?pag=news&id=390&rid=433&l=en>

⁵⁵ Ibid.



Energy Efficiency Fund in Romania

The Romanian Energy Efficiency Fund was established in 2003 through an Emergency Ordinance by the Government of Romania as an independent, autonomous legal entity. The Fund is independent and separate from any government agency, even though the funding initially comes mostly from GEF and is considered public funding.

The fund is overseen by a Board of Administration consisting of seven representatives from the Romanian private and public sectors, with a private-sector majority and an annually rotating chairmanship⁵⁶. The Fund targets public bodies and industrial companies. The Fund is administered by a small professional management team headed by an executive director whose main responsibility is to provide overall management of the project and serve as the main liaison with the World Bank and the Romanian government during project implementation.

Initially, it was designed as a revolving debt fund to finance a mix of private and public sector clients with loans in the US\$100,000 to US\$1 million range⁵⁷.

Being a one-stop-shop involves the following: identifying investment opportunities, determining the structure of specific investments, performing creditworthiness analysis of potential clients, and performing technical/environmental review and financial analysis of investment projects.

Projects payback was targeted at three to four years. At least 50 percent of project benefits are required to come from energy cost savings.

Since the Fund is a nonbanking financial institution, it is not bound by the strict risk management requirements of the National Bank of Romania and can structure collateral more freely than banks. From the Romanian EE Fund, the main takeaway is the importance of technical assistance (TA). TA, including both funded initiatives and more informal contacts between funds staff and market players, was crucial for the eventual success of Fund. The TA was provided to banks, project developers, and other energy efficiency market. Therefore, the TA as a tool is recommended and can be easily implemented by KEEF.

Table 7. Summary of pros and cons of Romania EE Fund.

Pros	Cons
Ability to operate without reliance on a banking system that was dysfunctional at project appraisal	Reliance on a competitively procured performance contract with a Fund Manager to deliver the program’s core institutional capacity for the one-stop shop proved to be a risky approach

⁵⁶ Taylor, P. R., Govindarajalu, C., Levin, J., Meyer, S. A., and Ward, A. W., (2008), *Financing Energy Efficiency: Lessons from Brazil, China, India, and Beyond*, Washington: The International Bank for Reconstruction and Development / The World Bank

⁵⁷ Ibid. pp.185.

Pros	Cons
One-stop shop for project development and financing with competences in energy efficiency and finance	Institutional scheme too complicated with many decision makers with different interests and finance
Technical assistance financing provided for project development and capacity building	Insufficient incentives to utilize technical assistance for maximum investment results

Source: INDEP expert analysis.

EERF Energy Efficiency Revolving Fund in Thailand

In 2003, as part of its broader Energy Conservation Plan, the Government established the Energy Efficiency Revolving Fund⁵⁸ to encourage investment by Thai banks for lending to energy efficiency projects. Thirteen public and commercial banks have participated in the Fund, which has resulted in 294 projects, with a total investment of approximately \$519M (\$235M from the fund and \$284M from commercial banks) with 40% in Renewable Energy and 60% in EE.⁵⁹ The total financial savings due to the projects estimated to be about \$177M per year. The expected energy savings have been around 320 thousand tons of oil equivalent (ktoe) per year, leading to GHG emissions reductions of about 1 million tons CO₂-equivalent annually⁶⁰. This program fell under the Government of Thailand's policy target to reduce Thailand's energy intensity by 25% between 2005 and 2025. It also aimed to promote the competitiveness of Thai businesses by reducing their energy costs and their dependence on oil imports from abroad. However, there were questions regarding whether the program has been effective in stimulating a self-sufficient market that can work without the incentives of concessional finance and technical assistance.

It was initially effective in attracting interest from commercial banks, with the numbers of participants increasing from six to eleven over the course of the program. However, their interest was not sustained; as previously stated, only one bank actively continues to finance EE projects. The market distortions of the concessional credit and technical assistance prompted the banks' initial interest. The concessional credit line means that the returns on their investments in EE are more attractive, whilst the technical assistance for assessing projects can help to build capacity and mitigate the high perceived risk.

The establishment of the Fund tackled some of the EE investment barriers in Thailand by supplementing mandatory obligations with voluntary programs; shifting primary responsibility for implementation away from the Ministry as well as allocating risk away from the Government; and simplifying procedures and expediting program implementation. A key message from the Thai EE

⁵⁸ Grüning, C., Menzel, C., Panofen, T., Shuford, L., (2012), Case Study: The Thai Energy Efficiency Revolving Fund, UNEP/Frankfurt School, Available online: https://unfccc.int/sites/default/files/fs-unep_thai_eerf_final_2012.pdf

⁵⁹ Streitferdt & Chirattananon (2015), Energy Efficiency Finance Support in Thailand: Lessons Learned from the Energy Efficiency Revolving Fund. *Journal of Sustainable Energy & Environment* 6 (2015) 13-16

⁶⁰ United Nations Environment Program and Frankfurt School of Finance and Management, 2012.

Fund is the creation of networks of private financiers and ESCOs. By holding meetings and events, the fund proactively brings together banks and ESCOs. ESCOs have developed a showcase of about 40 projects in order to teach banks the assessment of and return period for EE projects⁶¹. Because of market distortion and no gain of experience from the local bank's ad not being sustainable, with this mix this type of EE fund may not be achievable in Kosovo.

Table 8. Summary of pros and cons of EE fund in Thailand.

Pros	Cons
Creation of networks and ESCO	No gain of experience in EE projects from local banks
Allocating risk away from the Government	Market distortion
Simplifying procedures and expediting program implementation	Not Sustainable, credit line to banks

Source: INDEP expert analysis

Table 9 below depicts some of the key characteristics (Legal basis, founding source, objectives, management, typical projects, energy savings, and GHG reduction) of the six EE funds analyzed.

Table 9. Summary of key parameters for the selected EE Funds.

Characteristics	Bulgarian	Croatian	Armenian	Moldovan	Thailand	Romanian
Year Established	2005	2004	2005	2012	2003	2003
Funding Sources	World Bank, GEF, and governments of Austria and Bulgaria	Charges on polluters of the environment	World Bank, GEF	Moldovan government World Bank	Thai government	GEF
Fund Objectives	Support the development and financing of EE projects	Support the development of environmental and financing of EE projects	Decrease GHG by removing barriers to the implementation of EE and RES investments in the public sector	Support the development and financing of EE and RES projects in Moldova	Mobilize commercial investments to improve EE lending market opportunities	Help energy users adopt modern technologies for the efficient use of energy
Legal basis	Established under Energy Efficiency Act of 2004	Established under the Environmental Protection	Law on Energy Efficiency and	Established under the Law on Energy Efficiency	Energy Conservation Program Act. B.E. 2535	Government Emergency Ordinance

⁶¹ https://unfccc.int/sites/default/files/fs-unep_thai_cerf_final_2012.pdf

		and Energy Efficiency Act (No 01-081-03-2395/2)	Renewable Energy	dt. 2010, art. 20 (1)		
Legal organisation	Independent organisation	Juridical subject	Independent NGO	Independent	Governmental	Independent organization
Governance	Management board with 9 members (4 government, 5 non-government)	Management board with a chairman and six members	Board of Trustees - members include government, private sector, NGOs and academia	N/A	Department of Alternative Energy Development and Efficiency	Board of Administration with 7 members (2 government, 5 non-government)
Fund management	Private sector fund management team selected competitively	Management Board	Fund Director, Financial Manager, Investment Coordinator, and TA Coordinator	Sustainable Development Capital - SDC	Department of Alternative Energy Development and Efficiency	Executive Director appointed by Board; Fund Manager manages investment portfolio to
Main component	Debt, Financing Facility; Partial Credit Guarantees; and TA	Loans, subsidies financial assistance and donations	Loans, ESAs, and TA	ESA, Ta, EPC	Low interest Loans for banks	Debt financing and TA
Typical project	Rehabilitation of buildings EE Streetlighting Improvements in heat distribution systems	EE of buildings with regard to lighting and heating systems, building envelopes.	Improvements in individual heating systems Rehabilitation of public buildings EE improvement in homes and buildings.	Building Retrofit (lighting, HVAC, waste heat recovery, process optimization); Generation: (CHP, boilers, heat pumps).	Buildings, factories, energy service companies (ESCOs) and project developers	Replacing old energy generation equipment (boilers, CHP, hydro, geothermal) Modernizing process industry equipment and public lighting.

No. of Projects	185 loans/guarantee	78	73 ESAs	N/A	294	20 loans
Loan/ESA volume	\$41.6 million	€3.2 million	\$12 million	€75 million	\$519 million	\$11.4 million
Lifetime energy savings	130,000 toe	N/A	8.1 million MWh	N/A	N/A	36,533 toe
Lifetime GHG reductions	1.1 MtCo2e	N/A	2.2 M tCO ₂ e	N/A	320 thousand tCO ₂ /year	183,237 tCO ₂ e

Source: INDEP elaboration and adapted from Limaye, D., Singh, J., and Hofer, K., (2014).

7. Tools for a Transformative Role of KEEF

7.1 Experience to date

KEEF is a new EE financing institution in the country and the lead implementing partner for the MEEP, the objective of which is to implement energy-saving subprojects in municipal facilities. The KEEF assumes implementing agency for the projects on EE responsibility from the former Ministry of Economic Development now Ministry of Economy and Environment. It is responsible for monitoring the implementation of its disbursements. Donor funds were used to provide first investment capital for KEEF to cover start-up and operating costs and EE capacity building until the Fund reached financial self-sufficiency. The six case examples of EE funds also have highlighted the IFI's as a source of capital, as a hub of information and expertise on efficiency implementation and energy savings, and as a facilitator of public-private partnerships.

To date, the essential staff of KEEF has been employed and the permanent KEEF office is ready. The operations manual was drafted and adopted by the Board of Directors.

The manual provides guidance to all the key participants involved in fund management, project implementation, and results in monitoring, thereby providing a common understanding of all operational principles and practices for all stakeholders.

The first public call for proposals⁶² for EE project application was launched and the KEEF is inviting all municipalities interested in the improvement of EE in their public buildings and street lighting systems. An estimated minimum volume of investment per project is €20,000 and the maximum is €500,000. The responsibility for monitoring the implementation of agreements is held directly by the KEEF. Overall, the KEEF in the three years will allocate approximately of its financing (€15-17M) to public sector investments to help cover the viability, knowledge, and risk gaps that can affect private actors' ability and incentive to invest as well as invested in municipal-level facilities in public buildings as well as in public lighting in order to save electricity.

⁶² http://fkee-rks.net/file/repository/Public_Call_ENG.pdf

Some of the eligible measure⁶³ should include: Fulfilment of Minimal Energy Performance Technical Requirements; Maximum simple payback period up to 15 years for the whole project in a subject building or infrastructure system; Maximum 10% of total project investment volume can represent non-EE measures like rewiring, minor structural repairs, painting, seismic safety etc.

Concerning the EE saving potential the following estimation from a World Bank Report⁶⁴ shows that the Kosovo central government and municipal payback time is 5 years and energy saving are in total 152 kWh/m². As per the EE saving potential and according to the World Bank’s Kosovo Energy Efficiency and Renewable Energy Programme⁶⁵ with the delivery of investment over the period 2016-2020 of €14M yielding total energy savings after all interventions of 32.4 GWh/year (2.79 ktoe/year). This equates to a total cost of €0.44 per kWh annual energy savings. Assuming that municipalities contribute one-third of investment costs and that the equivalent cost-efficiency can be achieved through the KEEF as estimated (this would be in line with regional experience), and assuming the initial capitalization is targeted to be disbursed over a five (5) year period, yields the estimated energy savings provided in Table 10 below.

Table 10. Estimated annual energy savings from KEEF.

Description	Value
Contribution to investment from KEEF per year	€ 3.5 Million
Contribution from municipality per year	€ 1.5 Million
Assumed cost efficiency of investments	0.44 €/kWh
New annual energy savings	10.9 GWh/year
	0.91 ktoe/year

Source: INDEP assumption.

Further, taking an assumption of a linear rate of delivery for the period 2021-2030, this would yield approximately 50 ktoe cumulative energy savings over the period.

Additionally, according to the World Bank study⁶⁶ it is projected that KEEF would make investments in EE projects of about €1.0M in Years 1 to 4, increasing to €1.5M per year in Years 5 and 6, €2.0M from Years 7 to 10, and €2.5M from Years 11 to 15. The KEEF would be likely

⁶³ Ibid. pp.2.

⁶⁴ World Bank Report (2016), Europe and Central Asia Energy Efficiency Financing Option Papers for Kosovo.

⁶⁵ World Bank Report (2019), Kosovo Energy Efficiency and Renewable Energy Project, Available online: <http://documents.worldbank.org/curated/en/607481560546601793/pdf/Disclosable-Version-of-the-ISR-Kosovo-Energy-Efficiency-and-Renewable-Energy-Project-P143055-Sequence-No-10.pdf>

⁶⁶ World Bank (2016), Options for Financing Energy Efficiency in Public Buildings in Kosovo. Available online: <http://documents.worldbank.org/curated/en/607521475846166137/pdf/108848-ESM-P157135-PUBLIC-EE-Options-Paper-Kosovo-ENGLISH.pdf>

to achieve breakeven in terms of covering its administrative and overhead costs and fees from its revenues from Year 4 onwards.

Table 11. Estimation of other impacts over a 15-year period.

Description	Value
Cumulative project investments by Year 15	€27.5 Million
Annual government budget savings by Year 15	€4 Million
Lifetime energy savings	617 GWh
Lifetime GHG reductions	326,850 tons of CO ₂ e
Increase in green jobs	~ 500

Source: World Bank (2016), Options for Financing EE in Public Buildings in Kosovo.

The *target sector* for KEEF in its initial phase will be the public sector, focused on schools, kinder gardens, hospitals, and other public municipality buildings. This is in line with the government policy direction in the 3rd NEEAP⁶⁷ which stated to implement efficiencies in energy utilization in all sectors of energy users, namely transportation, industrial, residential, and commercial. The KEEF will also place a strong emphasis on private sector engagement, but it is too early to evaluate how this will take shape. Hence, the recommendation for the KEEF is to support the private sector as soon as possible as well as to conduct energy assessments to identify EE measures gaps and adopt novel EE equipment or technologies. The KEEF partnership with World Bank and IFI has allowed the recipient to benefit from these banks' different areas of expertise and work with them in a more coordinated manner under a common investment framework. As shown in the case studies above the IFI partnership has allowed the recipient to draw from these institutions' varied skill sets, including their ability to attract and coordinate financing on the ground, provide broader policy support, and deliver resources at scale to given markets and technologies. Although the abovementioned examples from EE Funds provide incredibly rich information in relation to EE measures, most significantly the impact of sound financial delivery mechanisms, their method of implementation is cognizant of their contextual setting (See Tables 1-6). With the set-up of the new institution for energy efficiency the KEEF, now the question is do we need the Kosovo Energy Efficiency Agency? As was noticed in many years through Kosovo Progress report that the KEEA needs further strengthening as well as that Kosovo has many agencies and needs to shorten them. As a result of the establishment of the energy efficiency fund, KEEA as a government agency is redundant and can be merged as a new department in the Ministry or join the already existing the Energy department (the department that before the establishment of the Agency has done the tasks).

⁶⁷ Kosovo Energy Efficiency Agency (2017), 3rd National Plan of Action for EE (NEEAP) in Kosovo.

7.2 Common barriers

Some of the main barriers for the operation of the KEEF in the first year, as well as from the experience of the six EE fund examples presented in this paper also according to a study from World Bank⁶⁸ are: recovering operating costs in early years were difficult, using private fund manager to oversee public funds may not be politically desirable, heavy reliance on a good fund manager, poor cooperation between stakeholders, need mechanisms to help ensure public client repayment, and the fund can act monopolistic.

In the socio-economic circumstances of Kosovo, this may be less of an issue than an inability to afford (unable rather than unwilling) to make the capital investment. Local municipal officials, however, usually do not consider EE investment in public buildings a high priority due to the lack of internal expertise in financial and project management and the uncertain business case for these projects.

Kosovan consumers need to overcome their relatively skeptical attitude towards energy efficiency and gain more access to energy services.

One of the most obvious constraints in Kosovo is that property owners, but also households in general, lack the income required to carry out major projects to modernize their buildings or homes. Not to be underestimated is also the behavioral inertia, or people's reluctance to do things differently, try new approaches or take action in the face of perceived risk.

Tackling the older buildings challenge – including the heritage buildings constraint and taking account of particular physical issues. However, according to the draft National Plan of Nearly Zero-Energy Buildings (NZEB) from 1st January 2021 on all new buildings in Kosovo applying for a construction permit shall be designed to be NZEB.

Moreover, the Energy Efficiency Financial Institutions Group Report⁶⁹ highlighted among others the following problems:

- ◇ Lack of evidence on the performance of EE investments makes the benefits and the financial risk harder to assess.
- ◇ Lack of commonly agreed procedures and standards for EE investment underwriting increase transaction costs.

⁶⁸ Limaye, D., Singh, J., and Hofer, K., (2014), 'Establishing and Operationalizing an Energy Efficiency Revolving Fund', *World Bank Group*, pp. 3-36

⁶⁹ The Energy Efficiency Financial Institutions Group Report (2015), Available online: <https://ec.europa.eu/energy/sites/ener/files/documents/Final%20Report%20EEFIG%20v%209.1%2024022015%20clean%20FINAL%20sent.pdf>

Table 12. How KEEF can address key barriers to energy efficiency investments.

Barrier to EE investments	How the KEEF can address the barrier
Potential beneficiaries lack awareness and information of project benefits	Build demand for EE investments through outreach and marketing; demonstrate their commercial viability; provide turnkey services to make it easy to identify, finance, and implement energy efficiency measures.
High project development and transaction costs due to small project sizes	Bundle similar projects; Standardize agreements and procedures.
Low energy tariffs	Provide longer financing tenors to allow investment costs to be fully repaid out of energy cost savings.
Commercial banks charge high interest rates; public entities are unable to borrow	Enter into nondebt instruments with public entities (e.g., ESA, lease contracts, energy performance contracts); Provide lower interest rates than commercial banks.
ESCO market is underdeveloped; Service providers (have low capacity levels.	Use simple ESCO contracts to help build local ESCO industry Provide TA to service providers to strengthen their capacity;
Beneficiaries have limited capacity to implement EE measures	Provide support services (e.g., conducting energy audits; developing technical designs; procuring equipment; supervising construction and installation; completing M&V; and providing training, case studies, and standard documents and templates).

Source: INDEP elaborate and adapted from World Bank & ESMAP 2018 (Financing Energy Efficiency, Part 1: Revolving Funds).⁷⁰

Table 12 above summarizes how KEEF can address typical barriers to EE investments. A key advantage of KEEF is that it can help pool funding from the Kosovo government and different international financial institutions and donors to facilitate coordination. Also, its staff is permanent - unlike typical project staff - allowing the KEEF to recruit excellent candidates and develop their capabilities over the long term.

7.3. Tools for getting started and effects on EE marketplace

KEEF program implementation over the next period should build on the experience and expertise from the experts employed and experience gained during the first year.

Learning initiative from six examples. Given that much of the portfolio of the KEEF is now in the initial phase and project pipeline stage is under development, consideration could be given to embedding ‘learning partners’ – within best examples from other countries. This would promote

⁷⁰ <https://openknowledge.worldbank.org/bitstream/handle/10986/30388/129733-BRI-PUBLIC-VC-LW88-OKR.pdf?sequence=1&isAllowed=y>

better understanding, more effective application and efficient learning focused on tracking the transformational role of KEEF.

Several conclusions can be drawn from the above analysis of six examples of EE funds. First of all, an essential tool is the *enhancement of transparency* on funding mechanisms for EE. Then, to come up with a framework for measuring, reporting, and verifying these flows. Further, *multi-stakeholder consultation*, across government, private sector actors, and civil society, will need to be one of a key feature of the KEEF programmatic approach and should be maintained throughout the implementation of funds programs and projects.

Further, as understood in the reviewed six examples it is important that KEEF offer the Technical Assistance support to the EE projects. In setting up the Technical Assistance Facility, the KEEF can carry out capacity building for Energy Service Providers (ESPs) and other market actors to enhance their ability to conduct energy audits; to screen, design, evaluate, appraise, finance, implement, and measure EE investments in the public sector.

Another key tool is that KEEF will need to develop a *marketing strategy*, investment plan, and develop a sustainable business to finance EE projects not served by commercial banks, starting with the municipal and public sectors. As noted from case studies, the most notable tool is the *ESA agreement*. Thus, the KEEF would enter into ESAs with municipalities to finance agreed EE investments in municipal public buildings, with ESAs not classified as municipal debt.

As illustrated in Figure 3, the Energy Service Agreements shall be the principal instrument/tool of KEEF for implementing EE investments in Public Entities under the revolving component. ESA's is signed between the KEEF and a Public Entity allowing KEEF to invest its funds in an EE project and recover its investments by the public entity, based on the projected energy cost savings.

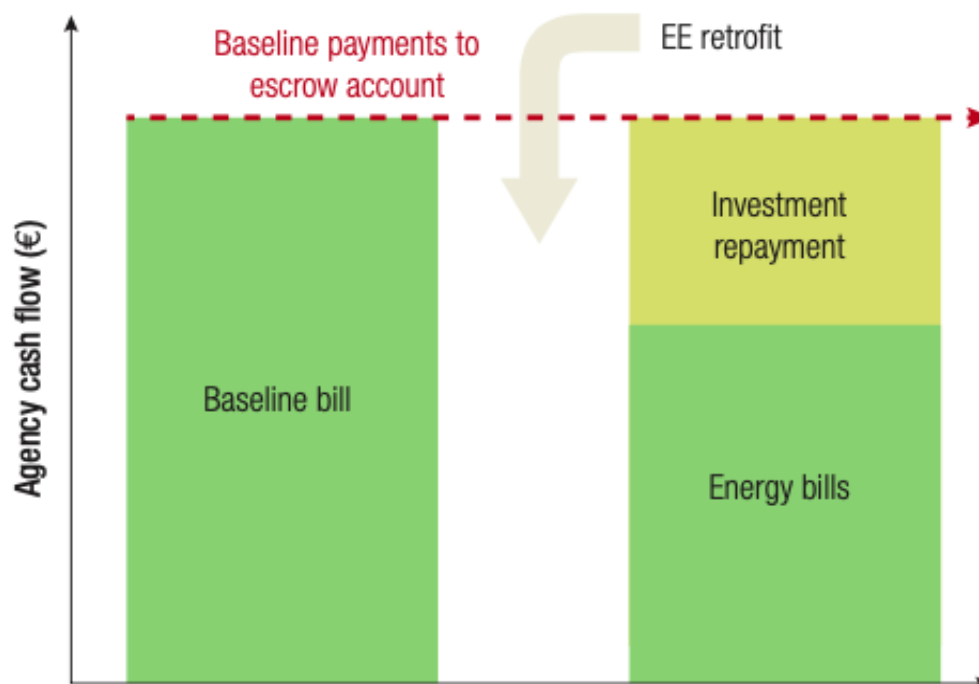


Figure 4. Payments under an Energy Services Agreement (ESMAP, 2014).

ESA tools can be very useful for municipalities with poor credit and lack of capacity and can facilitate the attraction of private finance into EE investment programs. Additionally, KEEF would provide a full-service package, including the provision of financing, energy audit, technical design, contractor procurement and oversight, environmental and social safeguards, energy savings measurement, and reporting. In return, the municipality would repay the project development and investment costs from the resulting energy savings (up to 15 years). Another tool from the case studies suggests that KEEF should consider when it has the opportunity to *bundle several small* projects together to obtain better pricing and reduce transaction costs as well as strict monitoring and controlling of project implementation is necessary in order to avoid possible abuse in the field. A lesson learned from the good practices of above-mentioned funds is the information of the citizens and engagement of stakeholders is essential for any EE fund to thrive. *Awareness and marketing campaign* is the first step of acquainting possible end-users and stakeholders of the possibilities offered to them. According to the Croatia experience linking *strong promotional activities* with easy application procedures and continuous support offered to project developers proved to be a way forward.

Thus, application procedure plays also an important role and it is recommended to be as short as possible. Croatia with only 30 days of the application procedure⁷¹ is the first to recognize this issue. In 2007 and 2008 the World Bank⁷² commended Bulgarian Energy Efficiency Fund as a “highly satisfactory (or best practice) operation, whose design and implementation should be disseminated internationally”. Thus, the Bulgarian EE financial application process⁷³ is good example and is composed of eight steps as shown in table below.

Table 13. EE Financing Application Process and Project Cycle.

Step no.	Action	Carried out by
1	Project identification: i.e., submission of the results of a detailed energy audit or a proposal for implementing a set of energy-saving measures	Project developer
2	Initial project screening	EE Fund
3	Completion of the Initial Project Proposal (IPP)	Project developer
4	Submission of IPP and accompanying documents to KEEF	Project developer
5	Assistance in project design and completion of related documents	EE Fund
6	Project appraisal and creditworthiness assessment	EE Fund
7	Formal decision on approval for financing	
8	Preparation and signing of the contract for financing and disbursement of funds	EE Fund and Project developer

⁷¹ <https://balkangreenenergynews.com/supporting-energy-efficiency-and-renewables-in-croatia-the-role-of-environmental-protection-and-energy-efficiency-fund/>

⁷² <http://econoler.com/wp-content/uploads/2017/10/EconolerBulgarie2017FINALentier.pdf>

⁷³ <http://econoler.com/wp-content/uploads/2017/10/EconolerBulgarie2017FINALentier.pdf>

Another utmost important tool in the era of digitalization is the necessity to provide information online with a user-friendly approach, where end users can find the right information concerning their needs.

As mentioned from the case studies *raising awareness of end-users*, the KEEF must consider providing information for EE projects all year long through an interactive online approach, where end users can find the right information concerning their needs and preferences. Energy advice network, on-site advice, energy savings calculators are some of the tools that can be implemented to raise awareness.

The findings of the Moldovan example would be of immediate relevance to the KEEF in that having to *visit the project's implementation* and view the ongoing works in confirming that the materials are of the best quality to ensure the EE savings. Thus, the case studies indicate that *sustained monitoring and evaluation* are needed to achieve results.

Across the reviewed examples of the EE funds, the management practices vary widely but one lesson from all is the importance of a competent *Fund manager* resulting in the overall success of a fund.

Hence, a proper managing structure of the Fund will be a crucial issue for the smoothly functioning of the KEEFs. Moreover, a new approach for Croatian and Romanian example is the use of the one-stop-shop.

To better understand the risks and benefits for financiers and investors in the EE sector it is highly recommended for the KEEF to use the following EE online platforms from European best practices for predicting energy savings, optimizing performance, etc.

Together with the EE Financial Institutions Group⁷⁴, the EC has launched in 2016 the *De-risking Energy Efficiency Platform*⁷⁵ which is the largest pan-European open-source database of EE projects. It builds performance track records and helps project developers, financiers, and investors better assess the risks and benefits of energy efficiency investments across Europe.

Equally important for KEEF is the next tool the *Underwriting Toolkit*,⁷⁶ which is a guide to value and risk appraisal for energy efficiency financing, launched in June 2017. It aims to help financial institutions scale up the deployment of capital into energy efficiency. For a more transformative role the KEEF will need to *target future markets* (private sector, transport, and industry) and other systems with large-scale, sustainable impacts that accelerate or shift the trajectory towards low-carbon. As per the example of Croatian fund, the transport sector was subsidizing for buying electric cars. The Bulgarian example of a credit guarantee for households was a useful tool that can be used in the near future for the residential sector. In regard to the funding sources, the example of Thailand's fund entails the tax on the use of vehicle gasoline. Using the Croatian example KEEF could introduce the environmental tax fee.

⁷⁴ Energy Efficiency Financial Institutions Group, Available online: <http://eefig.eu>

⁷⁵ De-risking Energy Efficiency Platform, Available online: <https://deep.eefig.eu/>

⁷⁶ Underwriting Toolkit, Available online: <https://valueandrisk.eefig.eu>

Concerning *the effects on the energy efficiency marketplace*, as the EE sector is a relatively nascent market in Kosovo, the financial community is still unfamiliar with the risks involved in renovation projects. As the market is still developing, it has limited technical, business development, and risk management experience and skills in the EE sector, increasing the risks perceived by investors.

It is evident that financial institutions with a presence on both sides of supply and demand, represent one of the most essential contributors for developing the EE market. Also, the reason why EE is still not on the priority list for consumers lies in the fact that slow returns on EE investment are still perceived as not beneficial as compared to the cost of other factors and the fact that energy prices are still relatively low. Thus, by introducing a newly established EE fund, a sustainable financial delivery mechanism for EE project is placed on the subsidiary body to lend at a preferential rate, first to public sector - municipalities and subsequently to residential households.

The governmental programs and activities are redundant or inefficient if more than one institution is involved in the same broad area of national need which may result in inefficiencies in how the services are delivered.

Thus, in the light of the newly formed institution KEEF (part of the tasks overlap with KEEA) and many remarks coming from the EC Kosovo Progress Reports (from 2015⁷⁷ till 2019⁷⁸) on overall limited capacities of KEEA and being understaffed. Including the latest remarks from the European Commission on the huge number of agencies in Kosovo and the need for their reduction in the efforts to reduce unnecessary spending. Further, considering that before the establishment of KEEA much of the energy efficiency work was carried out by the energy department at the Ministry.

All that said, we consider that after eight years of work (established in 2012), KEEA is redundant as an agency. It is therefore suggested that KEEA should merge with the Energy Department or as a new Department for Energy Efficiency in the Ministry.

The KEEF will provide more multilateral concessional EE finance more quickly than any other investment to play an important role in addressing barriers to investment. It is well-suited to support some of the most urgent EE investment needs and support the overall Kosovo EE marketplace going forward. The sustainable KEEF will be able to deliver the scale and type of support for the recipient to boost the EE market in Kosovo.

Through the KEEF, Kosovo provides an incentive for directed and organized willingness to make progress in the field of EE but also a flexible and creative forum for moving individual projects in various communities, with different resources, timetables, individuals and companies. Thus with its operation, the KEEF promotes the development of a well-functioning EE market in Kosovo.

⁷⁷ https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/key_documents/2015/20151110_report_kosovo.pdf

⁷⁸ <https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/20190529-kosovo-report.pdf>

The result is a sustainable KEEF that will support a stronger EE marketplace and the strengthening of energy service providers through its financial delivery mechanisms.

Figure below displays the influencing factor to the EE marketplace.

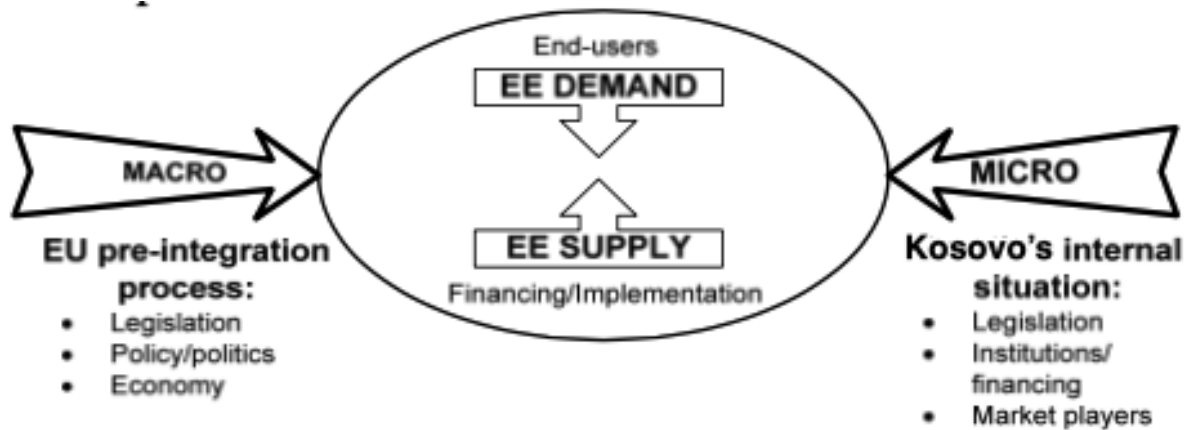


Figure 5. EE market in Kosovo and influencing factors (Source: INDEP analysis).

Further, the benefits are to encourage the utilization of novel EE technologies, to stimulate the involvement of the financial sector (banking institutions) in order to support the government's national EE programs, to increase potential energy savings, i.e. reduction of electricity consumption, decrease of greenhouse gas emissions (GHG).

The energy efficiency market is relatively new for Kosovo, so even its key players do not have sufficient knowledge of tools and mechanisms available for the implementation of projects. Knowing that the energy prices are one of the key factors driving the expansion of energy-efficient markets.⁷⁹ The future investments in the private sector are proposed to be direct but also indirect, stimulating the private sector to implement investments for EE. The limiting factor for KEEF to support eventual investments in the private sector is the size of the value of the required investments.

Nevertheless, according to the reviewed papers there are some limitations to a revolving fund could lead to a distortion of the financial market and actually hinder commercial and sustainable development⁸⁰ revolving funds have limits to mobilize private finance and revolve quite slowly.⁸¹

Therefore, for the improvement of the EE marketplace, the KEEF will need to create a collaborative platform among ESCO-s both at the program management and at the operational level, resulting in enhanced investments on EE measures. In improving its EE market, Kosovo can learn from the Hungarian Energy Efficiency Guarantee Fund (1997–2005)⁸² which broke

⁷⁹ International Energy Agency, (2013), Energy Efficiency Market Report 2016. Paris: IEA.

⁸⁰ Taylor RP, Govindarajalu C, Levin J, Meyer AS, Ward WA, (2008), Financing Energy Efficiency: Lessons from Brazil, China, India and Beyond. Washington DC USA: The World Bank.

⁸¹ Kats BG, Author P, Menkin A, Dommu J, Debold M, (2012), Energy Efficiency Financing.

⁸² World Bank & ESMAP (2018), Financing Energy Efficiency, Part 1: Revolving Funds, Available online: <https://openknowledge.worldbank.org/bitstream/handle/10986/30388/129733-BRI-PUBLIC-VC-LW88-OKR.pdf?sequence=1&isAllowed=y>

ground by being the first such fund to use guarantees to facilitate commercial energy efficiency lending. The fund was merged into the regional Commercializing EE Finance Program in 2005.

The case of Hungary demonstrates that early energy sector restructuring, good institutional and banking sector reforms, and structured aid programs can lead to important positive results in countries in transition in the energy performance contracting business⁸³. It also allows us to conclude that ESCOs and third party financing can play an important role in achieving EE goals if a nurturing business environment is provided. The most successful case for the ESCO business in Europe is the case of Hungary. For instance, the IEA⁸⁴ considers Hungary to be “one of the leading countries to develop the scope of ESCOs in the 90s”. According to the author Vine, it is estimated that 80% of the ESCO activity in Hungary is targeted at the municipal sector; the remaining 20% is shared between the industrial and residential sectors⁸⁵. Typical ESCO projects included public lighting, district heating and combined heat and power investments. The Hungarian ESCO example offers a model that can be easily replicated in Kosovo.

8. Conclusion

Change is inevitable and it is clear Kosovo needs a change in energy efficiency sector. National Energy Efficiency Funds are emerging as a key tool to help manage the overall energy efficiency sector and the low carbon transformation as well as assist governments to achieve its energy efficiency targets. Therefore, Kosovo established a new EE financing institution in the country the KEEF in 2019. Even though KEEF is still in an infant phase and additional time will be needed to develop a strong presence on the EE market and to make the fund as effective as possible in widening the target sector. The empirical evidence suggests that there is no such thing as a completely efficient fund; it remains only an idea that most countries strive towards.

In addition, new institutional mechanisms cannot be expected to develop and grow overnight, and therefore sustained efforts are required. The successes achieved in developing energy efficiency lending schemes in the above mentioned six best practices, for example, have been the result of some years of persistent effort. In most cases, steady and strategic government and international donor support is very important enabling factor for the type of institutional development required to truly improve delivery of energy efficiency financing.

In order to give the best tools for a sustainable KEEF, valuable experience and insightful lessons from the operation of six EE funds have been analyzed in depth. The aim was to be practical and present some of the most successful approaches that could form the bases of sustainable operation

⁸³ Ürge-Vorsatz et al. (2004), Why Hungary? Lessons learned from the success of the Hungarian ESCO industry.

⁸⁴ International Energy Agency-IEA, (2003b), Technologies for significant Greenhouse Gas Reductions from Energy, OECD/IEA, Paris, Forthcoming.

⁸⁵ Vine, E. (2003), “An International Survey of Energy Service Companies,” Lawrence Berkeley National Laboratory, Berkeley, CA. Available online: <http://econolerint.com/English/articles%20and%20lectures/Final%20intlESCOpaper%206%2023%2003.pdf>

of KEEF. Further, we discussed the tools for a transformative KEEF and its role in the EE market and several of the benefits that Fund can deploy that could bring the stakeholders together.

From the six case studies the concept, approach to use revolving funds proved successful which could benefit KEEF in using its revolving mechanism to become fully self-sustainable.

But the real challenges to accelerating energy efficiency lie in its policy foundations: the policy governance frameworks, the bankability that is enabled by sound financial policies and utilities that enable energy efficiency with cost-reflective prices and supportive measures. Consequently, the Government needs to appreciate more the need for a comprehensive approach to energy efficiency with respect to both energy and climate change, resulting in future expanding of the fund scope into the environmental protection and waste management. Through the KEEF, Kosovo provides an incentive for directed and organized willingness to make progress in the field of EE but also a flexible and creative forum for moving individual projects in various communities, with different resources, timetables, individuals and companies.

Our findings provide insights of a number of lessons (use of technical assistance, awareness-raising, pipeline generation and de-risking etc) from the six examples presented above (Tables 3-8) for those considering the delivery of EE finance in public and private sector both in the short and the medium to long-term. Based on the six case studies and with the support of the government, IFIs and other stakeholders, the sustainable KEEF can, increase employment “green jobs”, improve energy efficiency marketplace and mitigate climate change. With the use of the above tools, KEEF must be able to support the EE measure from the upcoming 4th NEEAP, projects and approaches for the smooth transformation of the energy efficiency market.

KEEF as a new EE financing institution in the country and the lead implementing partner for the MEEP, the objective of which is to implement energy-saving subprojects in municipal facilities. Thus it assumes implementing agency for the projects on EE responsibility from the former Ministry of Economic Development later MEETIESI and now Ministry of Economy and Environment (MEE). With the establishment of the new institution in the energy efficiency sector the work of the KEEA is redundant. Thus, we recommend that the KEEA merges with the department of energy at the Ministry or as a new department for Energy Efficiency inside the MEE.

To conclude, the sustainable KEEF can help the Kosovo Government meet its national EE targets of 2020 and beyond. It will help reduce the energy imports and public energy costs, improve comfort levels, refurbish public building stock, creation of an ESCO industry and new jobs, and reduce greenhouse gas (GHG) emissions.

9. Recommendations

The above findings identified 14 recommendations that KEEF and the Government should take to foster a transformative role. Accordingly, INDEP recommends the following or combinations thereof:

I. The government should designate energy efficiency as a national infrastructure priority and prepare a strong pipeline of EE projects in the public infrastructure.

In revising the National Energy Strategy, the government should set energy efficiency as a priority for the national infrastructure with the focus on the key energy efficiency technologies that will provide the highest potential for energy efficiency improvement. Regarding the EE projects pipeline, it is critical to be drafted in strong cooperation with the relevant stakeholders.

II. With the establishment of the new institution (the KEEF), the KEEA as an agency is redundant.

In order to achieve the wider goal of energy efficiency improvement, the overlaps may result in redundancy in efforts and waste of allocated resources. The grey areas created by the overlaps need to be clarified by the government and their functions should progress in tandem. Therefore, in the light of the newly formed institution KEEF (part of the tasks overlaps with KEEA), and since the Agency has worked with a limited number of officials (3-5), the recommendation is to systematize them within the energy department of MEE. Another option is to set up a new energy efficiency department within MEE, but this will condition the drafting and adoption of the new internal regulation of the Ministry.

III. The government and KEEF should start the implementation of performance contracts on energy savings.

Firstly, Government should ensure the adoption of ESCO regulation and then with the implementation of the upcoming EE projects, the KEEF will undergo a performance contract on energy savings, which will result in the development of the ESCO market (energy service companies) in Kosovo.

IV. KEEF should set up the Technical Assistance Facility as the best tool according to the most examples of EE funds.

With this facility, KEEF will help to build capacity for ESPs and other energy market players to enhance their ability to conduct energy audits; to screen, design, evaluate, evaluate, finance, implement and measure EE investments in the public sector. This facility could become as EE centers of expertise and included as a part of a TA in order to conduct periodic training to share lessons from earlier projects, common mistakes,

and training in the proper use of the equipment and new technologies as well as the application of energy management control systems.

KEEF should use the European EE platforms such as the *De-risking Energy Efficiency Platform and underwriting toolkit*.

V. *KEEF should employ short-term international specialists on know-how in EE project management, credit risk assessment, and disbursement and recovery of loans.*

In order to ensure the smooth project implementation and capacity building for the Energy service providers, the KEEF should prepare the Terms of References (ToR) and employ the short term, international EE specialist.

VI. *Ministry of Economy and Environment together with the Municipalities should review and adopt all 38 Municipality Energy Efficiency Plans (MEEAPs) as well as prepare the list of the worst-performing buildings in Kosovo municipalities.*

With the MEEAPs adopted, the municipalities will be able to apply for funding from KEEF and know exactly in which municipal buildings are most needed to implement the EE measures.

VII. *KEEF through a pilot project should set “Lead by Example” in making one or two existing buildings “NZEB” in Kosovo.*

To set a good example and boost the awareness of the social, economic and environmental benefits of undergoing energy efficiency measures in the buildings by having the KEEF demonstrate “Net-Zero Energy” buildings in key regions of Kosovo to challenge other national, regional and local government agencies to match or exceed the best energy- efficient buildings it has developed and offer awards to those units of government that do so.

The KEEF is recommended to start the pilot project within its office premises as the first NZEB in Kosovo. Moreover, work in close cooperation with newly established Innovation Training Park in Prizren to make one of the buildings inside the park (NZEB).

VIII. *For a sustainable funding sources, the KEEF should introduce the use the fiscal policies (taxation and user charges) for transport and environment.*

Besides the Funding from international and regional actors, developing a reliable source of funding is a must. Thus, according to the example of the Thailand EE fund, the fiscal policy change will need to be prepared and implemented in the coming years to ensure the sustainability of the KEEF. In addition, as per Croatian example, the funding option can include imposing the charges on polluters of the environment and special environmental charges for motor vehicles.

IX. KEEF in later years of operation should expand its scope to environmental protection and waste management as well as change its name to “Kosovo Energy Efficiency and Eco Fund”.

As shown in the Croatian and Thai examples it is recommended that in coming years and in the necessity for other sources of funding, KEEF should draft a new regulation and expand its target to the environmental protection and waste management as well as introduce the environmental tax fee as a new source of funding. Concerning the expansion of the objectives to the environmental sector and with the merger of the Ministry of Economy and Ministry of Environment it will be easier to facilitate the new environmental objectives and name the fund as “**Kosovo Energy Efficiency and Eco Fund**”.

X. KEEF should bundle several small projects and shorten the application procedure.

The bundling of several similar projects is necessary to form a sustainable approach to EE projects, particularly as these have high project and transaction costs.

An important tool recommended for the KEEF stemming from the case studies is to have easy application as shorter as possible application process as Croatian example (30 days). In addition, KEEF board members and management team should promote the bundling of small similar projects together to obtain better pricing and reduce transaction costs as well as for better and efficient project monitoring and evaluation.

XI. KEEF should expand its target scope to the private sector (households).

With the highest electricity usage and a significant portion of energy for heating and cooling being used by households, energy efficiency’s biggest potential is at the homeowner and building-owner level. As shown from above-mentioned EE fund examples the main part of EE projects application came from household EE retrofitting. Therefore, it is recommended to expand many of its existing energy efficiency programs for the residential sector to achieve higher energy savings so that it can better influence people’s knowledge and choices. The Ministry of Economy and Environment and KEEF to prepare a study on EE incentives for the private sector and households with the incorporation of the accessibility of the EE measures for consumers affected by energy poverty.

XII. As was shown in the six examples of EE funds, a sustainable KEEF needs a strong and capable manager or management team in monitoring the EE projects.

In order to ensure its sustainability over years, the KEEF needs to make every effort to establish a consistent tracking and assessment capability or framework that will feed into a database with all the relevant figures. The fund manager should monitor the whole project cycle of the EE projects to ensure their full implementation.

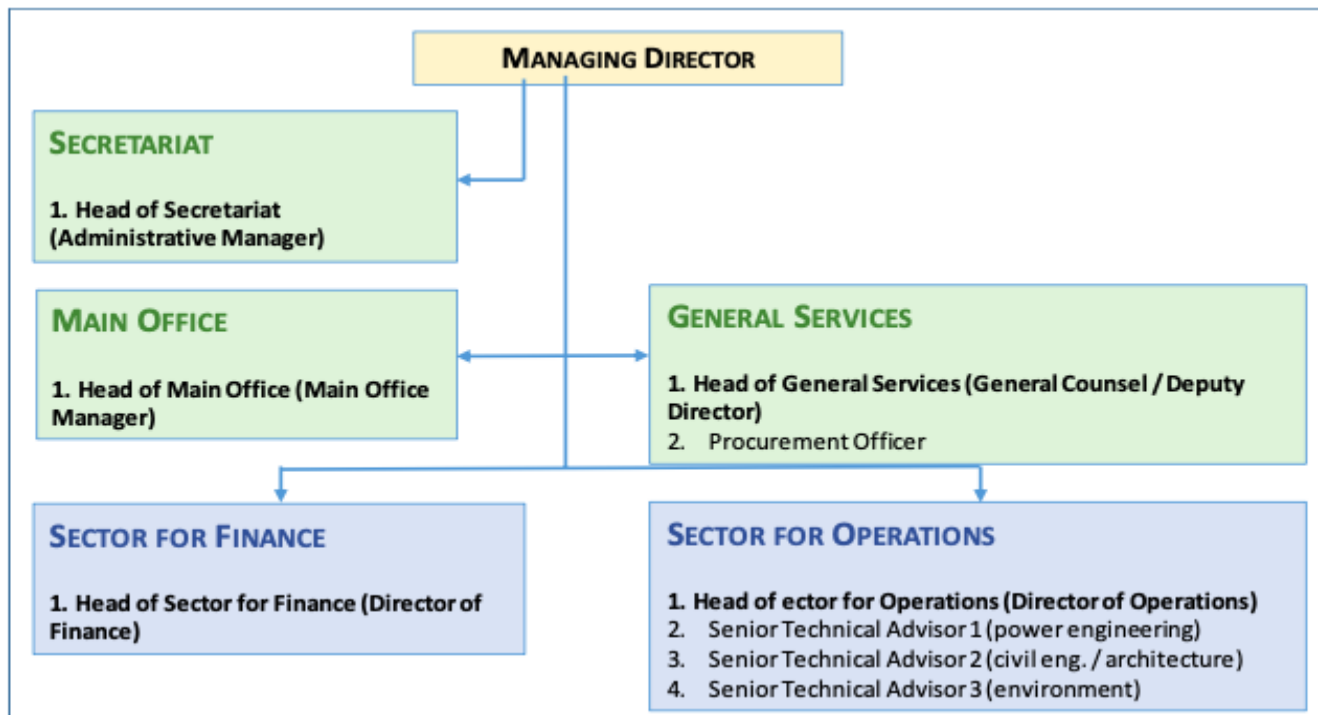
XIII. KEEF should develop the market strategy and conduct awareness-raising campaigns.

As was shown in the six case studies that knowledge gaps and awareness factors proving to be a persistent and prominent barrier to energy efficiency investments. Hence, for developing a marketing strategy and conducting awareness-raising campaign's the KEEF should announce the public call to hire the communication service company. A marketing strategy should be developed for each target market with divergent tools for reaching and attaining the intended objective. Therefore, jointly with international development agencies, to develop a marketing campaign and organize annual EE Week conferences, to promote and cultivate a better relationship between all the institutional actors, investors, and consumers regarding energy efficiency and all its benefits.

XIV. KEEF should conduct financial reviews (e.g., budgeting, procurement, municipal finance).

In order to ensure its sustainability, strengthen its operations, develop future business, and recapitalization plans, KEEF should prepare the five-year investment plan and the financial re-capitalization plan.

Annex I. Scheme of Internal organization of personnel of the KEEF



Source: Internal Regulation of KEEF⁸⁶

⁸⁶ http://fkee-rks.net/file/repository/2_IR_int_org_employment_and_remuneration_of_KEEF_ENG_19_2_2019.pdf

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