Obiliq, Kosovo
March 29, 2012

Mr. Alf Morten Jerve
Chairperson
Mr. Peter Lallas
Executive Secretary

Inspection Panel
World Bank
1818 H Street NW Washington DC, 20433
USA

Complaint addressed to the World Bank Inspection Panel regarding the Kosovo Power Project

Dear Alf Morten Jerve and Peter Lallas,

We are writing to ask that the Inspection Panel investigate two World Bank projects: Kosovo Power Technical Assistance Project (LPTAP no. P097635) and Kosovo Power Project (KPP no. P118287). This complaint is signed by the representatives of the following villages: Darshishtë, Lajthishte/Sibofc, Cerna Vodica and Hade of Obiliq, and the town of Obiliq. The complaint is also filed by the KEK Independent Union – SPEK, signed by Izet Mustafa on its behalf. The complaint is also supported and filed by the Kosovo Civil Society, respectively Krenar Gashi on behalf of the Institute for Policy Development, Agron Demi from the Institute for Advanced Studies and Mexhide Spahija from the Forum for Civic Initiative.

We are concerned about the very serious social, economical and environmental impacts related to KPP and LPTAP. We have already felt the impacts of these projects and are worried about what will happen after KPP has been built.

We have raised these issues with the responsible WB staff,[1] but were not satisfied by the response that we received.

With regards to both abovementioned projects, we believe that the following WB Policies have been violated:

OP 4.01 – Environmental assessment;
OP 4.12 – Involuntary displacement
OP 10.04 – Economic evaluation
OMS 2.20 – Project evaluation

[1] Community letter sent on 5th of March 2012; Regular communication of the civil society, respectively Nezir Sinani and his colleagues addressed to the World Bank;

Project summary

Power Technical Assistance Project – LPTAP

This project span was 2006 until present day, as far as we understand, and was implemented as preparation for the Kosovo Power Project – KPP. During implementation, the project has produced some important documents on KPP. Such documents include Strategic Environmental and Social Assessment in 2008 and framework policy on displacement in 2011. Another economic assessment of the project was performed by the World Bank, as a part of the project although it is unclear if it was implemented as a project component. During the implementation of the project, we faced increasing social, economic and environmental problems, since displacement of population continued from the certain area of the Kosovo Power Project (KPP), while due environmental protection measures were not taken.

Kosovo Power Project – KPP

World Bank has made it official to the Kosovo Government that it will consider a partial guarantee for the risk from construction of the new lignite-based power plant. The same project provides for expanding the current mining throughout Obiliq villages.

Many of our neighbours have been displaced and we do not know how many more will be moved; it will not result in reducing power price for the affected inhabitants and shall negatively impact many aspects of social-economic and environmental life, as described hereunder.

Social, economic and environmental problems

Environmental pollution

KPP is foreseen to be implemented in Obiliq, an area where 'Kosova A' and 'Kosova B' power plants already operate. Use of lignite for the needs of both existing power plants and technological treatment in this area turned Obiliq and surrounding villages into the most polluted area in Europe[2]. Pollution is comprehensive and also affected agricultural land, surface and ground waters, and air.

This area is only 7 km from the Kosovo's capital, Prishtina. Consequences of burning coal for power generation, directly affects our lives and those of the other 500.000 inhabitants of the capital.

Increasing quantity of lignite burned for power generation through power plant "New Kosovo" will make things worse for the inhabitants of Obiliq and surrounding villages, as well as people living in Prishtina.

We are facing health issues as a result of releasing various pollutants to the environment, resulting from coal combustion. Release of smoke, sulphide dioxide, iron, zinc, mercury and other pollutants, has direct impact on increasing incidence of cardio-vascular and neural diseases among our communities. Our children are especially vulnerable and their cognitive abilities will be affected from

2 http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2008/07/16/000333038_20080716012909/Rendered/PDF/E13670VOL130Box327408B.pdf [SESA]

the release of mercury and iron to the environment, while release of hydrogen chloride will affect their lungs.

The greatest impact comes as a result of water pollution. Water is polluted from the discharge of lignite ashes, airborne ash and other pollutants from the lignite discharge. Since 60% of the communities living in the polluted area are farmers, our flocks of animals are also affected by pollution, since they use the river and ground waters for their animals. Thus pollution affects the human health as a result of using domestic animal products.

Water shortage

KPP provides that current supply of power plants in Obiliq and supply to the new power plant is done using the Iber Lepenc canal, which supplies water from Iber Lake in the north of Kosovo. The same canal is used for irrigation of agricultural land in three municipalities of Kosovo: Obiliq, Vushtrri and Mitrovica. The same canal supplies water to the Badovc Lake, which supplies Prishtina with potable water. Prishtina and its suburbs constantly face potable water shortage. Increasing use of water from this canal as a result of increasing the generating capacity will necessarily result in water cuts for Prishtina. This may also leave agricultural land with no water resources for irrigation.

We need water for our homes and our farms. But if the new plant is built there will be no water for us to use.

Economic impact

Around 70% of the Obiliq territory since 7 years has been declared a zone of national interest. This is because the area shall be used for lignite mining for the needs of power generation in the country. Upon declaration of the interest zone, local inhabitants of the zone did not enjoy the right of developing their households, and they were not allowed to develop new households in order to advance the social-economical situation of their families. Meanwhile when we were deprived of this right, we were not included in any special project for displacement, in an area where they would exercise such rights. This applies to Hade, Dardhishte and Lajthishte villages of Obiliq.

During the deprivation of this right, we have not received any benefits, just like we did not enjoy any compensation for pollution of the water, air and land. We have enjoyed such a right during 70' and 80', but not since 90'.

Moreover, we are subject to systematic power cuts and we were never spared by this corporation. This increases the risk of accidents for the population who live in the "backyard" of power plants and existing mines.

Displacement of population

Since the LPTAP initial implementation stage, KEK started expropriation of Hade inhabitants for KPP. The displacement started without developing any plan of activities for displacement of inhabitants and with no national displacement policy that would be in line with World Bank displacement policies. Thus the displacement was conducted in contradiction with such policy and resulted in unfair and low displacement compensation paid to inhabitants of such villages.

In order to open a new lignite mining field and start construction of the new power plant, the inhabitants living in the same villages should be displaced in order to make way for the KPP. National displacement policies provide that us and our neighbours in Obiliq shall be displaced within the territory of Obiliq. Knowing that around 70% of the Obiliq's territory is of national interest, it means that the displacement shall be done in the remaining part of the territory. This no doubt creates a serious problem to the displacement process, because it hinders the proper displacement required by World Bank displacement policies.

Displacement should be performed in line with these policies, while displacement of the population in the future shall no doubt require revision of current displacement policies and each criterion in this regard should be met.

Absence of transparency and consultations

Since the engagement of the World Bank in power projects in the country, Obiliq community, Union of KEK Workers and civil society have been excluded from the decision-making processes. Requests of the civil society for access to official documents, which is provided by the national legislation, have been constantly turned down by the Ministry of Economic Development, project leading agency, and also by the World Bank almost in all cases. Thus absence of authentic information and absence of access to official documents has deprived us the right to get involved in these projects. This is in contradiction with the World Bank policies on the right of information and data disclosure.

Through the present complaint, we would like to refer once again to all requests filed to the World Bank and the Ministry of Economic Development, for access to information regarding LPTAP and KPP. Such requests were submitted mainly by Mr. Nezir Sinani on behalf of civil society, and the community of Obiliq and surrounding villages.

Impact on employment

Opening of new lignite mining area and construction of 'New Kosovo' power plant shall be accompanied with permanent decommissioning of "Kosova A" power plant in 2017 and revitalization of "Kosova B" power plant. This will be accompanied with privatization of supply and distribution grid. Combination of these projects will result in dismissing hundreds of current workers of the Energy Corporation.

World Bank and the Kosovo Government have never consulted the Union of KEK Workers about the problem, and did not take any other activity to handle the problem. WB is obliged through best working practices to take specific measures towards workers who are affected by the KPP implementation process. Development of incentive packages to such workers is not seen in the horizon, while WB has failed to include in this project the investments in other areas of power development in Kosovo.

Kosovo now loses about 40% of generated and imported power as a result of technical and commercial loses in the grid, while power demand is 30% higher as a result of such loses, and as a result of absence of projects for energy efficiency and proper insulation of houses. Development of specific projects to handle these two problems would result in increasing number of employees, and according to current international trends, the number of jobs in this area is much higher than

investment in the new power plant. While not having the Poverty Reduction Strategy for Kosovo, WB has failed in analyzing the needs for economic development of the country, and consequently failed to focus investments in projects that generate more jobs for Kosovans.

Absence of studies on alternative energy sources

Kosovo civil society, since months, has requested the World Bank a full analysis of energy potential in Kosovo and an economic analysis on advantages of this potential versus various options. World Bank still does not have a full overview of what Kosovo provides in term of alternative energy sources.

Civil society worked closely with the Berkeley University of California to analyze the sector, while this analysis showed that Kosovo has a great potential of alternative sources and this potential is economically viable, serves the purpose of protecting health and environment in Kosovo, and creates 30% more jobs.

Failing to have such an analysis and failing to have a Partnership Strategy in Kosovo in effect, World Bank has embarked its engagement in this project in a way which contradicts its policies on such projects and fully contradicts the best work practices held and implemented by the Bank.

Requests

We request the Inspection Panel to closely analyse all abovementioned complaints identified and analyzed in details in Annex "Technical Annex to the Request for Inspection on the Proposed Kosovo Power Project". This Annex should be considered a composite part of the complaint.

We request the Inspection Panel to immediately review the complaint and request the Board of the World Bank to immediately address all demands and concerns raised on the concerned projects.

SIGNED:

Agim Preniqi, ID 1005912217
Parliamentary Representative for Hade
Address
Phone

Shaip Paloja, ID 1013621981
Community Representative for Palaj/C. Vodica
Address
Phone

Eshref Pllana, ID 1014706018
Community Representative for Lajthishte/Sibofc
Address
Phone

Izet Mustafa, ID 1005373120

Head of the Kosovo Energy Trade Union
Address
Phone

Agron Demi, ID 100356714 8
Institute for Advanced Studies
Address
Phone

Burim Gërguri, ID 1014702144
Community Representative for Dardhishte
Address
Phone

Nexhat Shabani, ID 1005913019
Community Representative for Obiliq
Address
Phone

Besianë Gashi, ID 117246332
Community Representative for Obiliq
Address
Phone

Mexhide Spahija, passport nr 84082963

Forum for Civic Initiatives
Address
Phone

Krenar Gashi, ID 100039373
Institute for Development Policy
Address
Phone

As specified in the letter of delegation, the Requesters authorize Mr. Nezir Sinani from the Institute for Development Policy (INDEP) to represent them in this process.

Nezir Sinani
Senior Researcher/Analyst, INDEP
Mobile: +386 49 609 906; +1 202 674 0024
Email: nezir.sinani@indep.info

LETTER OF DELEGATION

AUTHORIZATION

Obiliq, Prishtina March 22, 2012

We, the signatories of this document, designated community representatives of the villages of Hade, Dardhishte, Lajthishte/Sibofc, and Palaj/Crkvena Vodica, and of the town of Obiliq, located within the Municipality of Obiliq, as well as the representatives of the Civil Society Organizations, authorize Mr. Nezir Sinani from the Institute for Development Policy (INDEP) to represent us in the Inspection Panel complaint process. We understand that, in this matter, INDEP participates in a coalition including the following non-governmental organizations: Dokufest; Forum for Civic Initiatives (FIQ); GAP Institute; Prishtina Institute for Political Studies (PIPS); Institute for Development Policy (INDEP); Internews Kosova; Youth Initiative for Human Rights (YIHR); Balkan Investigative Reporting Network (BIRN); Saferworld and Group for Legal and Political Studies.

We have also been advised of Mr. Sinani's communications with the World Bank, raising concerns relating to the LPTAP and KPP. We would like to incorporate by reference all concerns raised by Mr. Sinani and colleagues in the coalition, including the following: impacts of pollution (air, water, and land) to the environment and human health; impacts on workers, in particular relating rights to collective bargaining and freedom and association, as well as safe working conditions; unsustainable water usage; social impacts on agriculture; social impacts on local employment; concerns about involuntary resettlement; lack of consideration of viable alternatives; inadequate consideration of social and environmental costs in project economics; and the general lack of information disclosure and consultation.

We authorize Mr. Sinani to be our representatives for this process in official communications with all levels of World Bank, regarding our concerns about the energy projects in Kosovo. This authorization is valid until further notice.

Signatories:

Agim Premqi, ID 1005912217
Parliamentary Representative for Hade
Address
Phone

Burim Gërguri, ID 1014702144
Community Representative for Dardhishte
Address
Phone

Shaip Paloja, ID 1013621981
Community Representative for Cerna Vodica
Address

Nexhat Shabani, ID 1005913019
Community Representative for Obiliq
Address

Phone

Eshref Pllana, ID 1014706018
Community Representative for Lajthishte/Sibofc
Address
Phone

Izet Mustafa, ID 1005373120

Head of the Kosovo Energy Trade Union
Address
Phone

Agron Demi, ID 1003567148
Institute for Advanced Studies
Address
Phone

Phone

Besianë Gashi, ID 117246332
Community Representative for Obiliq
Address
Phone

Mexhide Spahija, Passport nr. 84082963

Forum for Civic Initiatives
Address
Phone

Krenar Gashi, ID 1000353473
Institute for Development Policy
Address
Phone

Contact Information for Mr. Sinani

Nezir Sinani
Senior Researcher/Analyst, INDEP
Mobile: +386 49 609 906; +1 202 674 0024
Email: nezir.sinani@indep.info

TECHNICAL ANNEX TO THE REQUEST FOR INSPECTION ON THE PROPOSED KOSOVO POWER PROJECT

March 29, 2012

TABLE OF CONTENTS

I. SUMMARY

The Requesters asked CIEL and BIC[1] to analyze their complaint against the Inspection Panel Procedures and World Bank policies and procedures. In their request, the Requesters ask the World Bank Inspection Panel to investigate World Bank ("Bank") involvement in two projects in Kosovo's energy sector: the Kosovo Power Project (KPP) and the Lignite Power Technical Assistance Project (LPTAP). Both of these projects, and in particular the new lignite power plant and the expanded lignite mine contemplated by the KPP, are likely to cause significant environmental and social impacts and incur associated costs in an area that is already heavily affected by lignite mining and power generation. At present, these impacts and costs have not been sufficiently addressed by the Bank, in violation of Bank policy, and many could be avoided through more environmentally sustainable alternative projects. As part of the LPTAP, the Bank completed a number of studies in preparation for the KPP, but these studies are inadequate and, at a minimum, without completing new studies the project would violate Bank policies. Furthermore, both projects suffer from a lack of transparency and insufficient community consultation, which should be remedied before a decision is taken. Requesters ask that the Inspection Panel review the projects' consistency with Bank policies, including OP 4.01 on Environmental Assessment, OP 4.12 on Involuntary Resettlement, OP 10.04 on Economic Analysis, OMS 2.20 on Project Appraisal, and the Bank's Strategic Framework for Development and Climate Change (SFDCC).

The Requesters are particularly concerned that:

(a) the Strategic Environmental and Social Assessment (SESA), the Resettlement Policy Framework (RPF), and the Economic Analysis developed through the LPTAP and reviewed by the SFDCC Expert Panel are inadequate;
(b) the KPP, particularly the new mine and plant, will significantly extend the life span of activities that cause substantial environmental degradation and related health harms, in an area that is already heavily contaminated, resulting in cumulative impacts;
(c) the KPP is likely to create the need for significant resettlement in an area without sufficient arable lands, degrade households and cultural sites, and lead to loss of livelihoods without adequate compensation;
(d) the KPP is likely to cause harm to workers and the local economy;
(e) the Bank has failed to adequately consider sustainable and effective alternatives; and
(f) the lack of transparency and consultation demonstrated so far will only continue as the KPP appraisal process continues.

II. PROCEDURAL REQUIREMENTS

The Requesters herein meet the procedural requirements to bring this request because they are a group of two or more individuals likely to suffer harms as a result of Bank-financed activities in Kosovo, and they have raised their concerns with Bank Management without receiving a satisfactory response.

[1] Critical assistance was provided by the Transnational Development Clinic and International Human Rights Law Clinic of Yale Law School, with additional comments and suggestions provided by the Sierra Club.

A. Identification of Requesters

The Inspection Panel has authority to receive requests from (a) a group of two or more people in the country where the Bank-financed project is located who believe that as a result of the Bank's violation their rights or interests have been, or are likely to be adversely affected in a direct and material way or (b) a duly appointed local representative acting on explicit instructions as the agent of adversely affected people.[2]

The Requesters all live in Kosovo, in the area affected by the project, where the KPP power plants and mine will be built.

B. Projects at Issue

Requesters raise concerns relating to the following projects: the Kosovo Power Project (No. P118287) and the Lignite Power Technical Assistance Project (No. P097635), as described below. The KPP is under consideration, with a projected Board approval date of November 17, 2012, and, as far as can be ascertained, the LPTAP is less than 95% disbursed.

The Requesters believe they have suffered or are likely to suffer the environmental, health and labor harms alleged herein as a result of the Bank's failure to adhere to its policies with respect to the KPP and the LPTAP. Moreover, Requesters are concerned about the Bank's failure to follow its requirements for disclosure and consultation resulting in a lack of transparency and consultation associated with the projects to date.

C. Efforts by Requesters to Raise Concerns with Bank Management

The Requesters have attempted to raise their concerns with the Bank Management on numerous occasions but have received few and unsatisfactory responses. Requesters have raised numerous issues, including concerns about plans for resettlement, environmental and health impacts, access to electricity, and reduction in local employment, however they did not receive satisfactory responses. Requesters also raised concerns about resettlement (as far back as the 2007 consultations) but to date are not aware of when and how resettlement will take place. Some Requesters also expressed a desire to be informed and consulted about the privatization process, but have received little to no information about this process from the Bank. In fact, the Bank has not had contact with representatives from the villages for over three years. These representatives sent a letter to Bank management on March 6, 2012 summarizing their concerns with the proposed project.[3]

In addition, Mr. Nezir Sinani (contact point for the Requesters) and other representatives from civil society organizations have raised several concerns with the Bank over the past two years. A brief summary of the written correspondence between Mr. Sinani and Bank officials is given below. Additional details may be found in Appendix 1.

---

[2] World Bank Inspection Panel Operating Procedure, *available at* http://web.worldbank.org/WBSITE/EXTERNAL/EXTINSPECTIONPANEL/0,,contentMDK:20175161~pagePK:64129751~piPK:64128378~theSitePK:380794,00.html.

[3] *See id.*

On November 8, 2010, representatives of several Kosovo civil society organizations sent a letter to the Bank's President and Board Members criticizing the lack of transparency in the energy sector review process, and requesting comprehensive public disclosure of all available documents, including procedures used to evaluate Kosovo's compliance with environmental and other relevant policies.

On May 31, 2011, Mr. Sinani sent an e-mail to Scott Sinclair and other Bank officers inquiring about additional funding for the LPTAP, requesting the Expert Panel's Terms of Reference (ToR) and related documentation, and requesting a hydrological study on the Ibar Lake in northern Kosovo.

On June 6, 2011, Mr. Sinani sent an e-mail to several Bank officers requesting information about studies on alternative energy sources.

On August 25, 2011, Mr. Sinani sent an email to Bank staff raising concerns about the SFDCC Export Panel Terms of Reference.

On September 9, 2011, Mr. Sinani sent an e-mail to Jane Armitage, World Bank Country Director and Regional Coordinator for Southeast Europe, asking the Bank to publish online the studies related to the work of the Expert Panel and the ToR for the Least Cost Supply Option study. On September 12, 2011, Mr. Sinani sent an e-mail response to Mohinder Gulati, Country Sector Coordinator, Western Balkans, restating that the studies referred to in the Expert Panel ToR were unavailable. Mr. Gulati had erroneously asserted that these documents were available online; in actuality, only 7 of the 29 documents listed in the ToR were available. On September 15, 2011, Mr. Sinani sent an e-mail to Bank officers reiterating a request for the Bank to make available documents 2, 11, 12, 17, 21, 22, 24, 25, 28, and 29 of the Expert Panel's ToR. On September 29, 2011, Mr. Sinani sent an email to Jane Armitage following up on an in-person meeting, and inquiring about the Least Cost Supply study for the Expert Panel.

Mr. Sinani attests that he sent several Bank staff a copy of the publication "Energy Projects in Kosovo" outlining concerns and recommendations about the proposed energy project (attached) in October 2011.

On February 23, 2012, Mr. Sinani sent a letter to the Bank expressing concerns about air pollution monitoring for the proposed project.

On March 14, 2012, Jane Armitage met with several community members and civil society groups. Requesters raised several concerns during this meeting, but again did not receive satisfactory responses to their concerns.
After these attempts to discuss their concerns with Bank officials, Requesters are not satisfied with the Bank's response and bring this complaint before the Inspection Panel.

III. PROJECT DESCRIPTIONS

A. The Proposed Kosovo Power Plant (KPP) (No. P118287)

The Bank is proposing to assist the Government of Kosovo to address problems associated with the energy sector through the KPP. Kosovo's energy sector is plagued with a host of problems: regular electricity outages and blackouts, continuing reliance on polluting lignite power, and an inefficient transmission grid that results in enormous losses.[4] The stated objective of the KPP, a Category A project, is "to reduce the environmental impact of electricity generation and strengthen security of supply in Kosovo in an economically efficient, environmentally sustainable, and a carbon-neutral manner."[5]

Kosovo's major lignite-based power plant ("Kosovo A") is due to be decommissioned in 2017 and is expected to cause a shortfall in power supply. As currently proposed, the KPP will have three components: (1) replacing the lost capacity of Kosovo A by rehabilitating the existing Kosovo B Power Plant ("Kosovo B"); (2) construction of a new lignite-based Kosovo C Power Plant ("Kosovo C"), also known as Kosova e Re, with an installed capacity of 600MW[6] and associated infrastructure; and (3) the development of a new lignite coal mine in Sibofc to meet the fuel needs of the power plants ("Sibofc mine"). If approved, all three components of the KPP will be financed through private sector investment, with support of a partial risk guarantee (PRG) from the International Development Association of the Bank.

The new Kosovo C plant is expected to be developed in the Obiliq municipality, one of the most polluted municipalities in Kosovo,[7] near the site of the existing Kosovo B, which is ten kilometers southwest from Prishtina, Kosovo's capital, and five kilometers from the Sibofc mine. The mine project will acquire approximately 13% of the territory of the Obiliq municipality, and the Bank notes that this area is "largely composed of fertile land."[8] Within the municipality, a number of areas will be impacted by the proposed activities, including: the town of Obiliq; and the villages of Dardhishte, Hade, Cerna Vodica, Sibofc, Shipitulle, Leshkoshiq, Fushe Kosova, Vushtrria, and Drenas.[9] The municipality is more densely populated than the rest of Kosovo: according to the latest Kosovo census from April 2011, 21,548 people live in Obiliq, with density of approximately 205 persons per km^2, which is above the Kosovo average of 175 per

---

[4] *See* Kosovo Institute for Policy Research and Development (KIPRED), Forum for Civic Initiatives (FIQ), and Gap Institute, *Energy projects in Kosovo*, 8 (Sept. 2011), http://www.kipred.net/web/upload/Energy_Projects_in_Kosovo.pdf.

[5] World Bank, *Project Information Document for the Kosovo Power Project* (July 27, 2011), http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/08/04/000001843_20110808120850/Rendered/PDF/1108030Kosovo00PID000concept0stage.pdf [hereinafter KPP PID].

[6] Strategic Framework for Development and Climate Change Expert Panel, *Kosovo: Kosovo Power Project, Report of the SFDCC Expert Panel to the World Bank* (Jan., 2012) [hereinafter SFDCC Expert Panel Report].

[7] Municipality of Obiliq, *Local Economic Development Plan 2007-2010* (Nov. 2007), *available at* http://lgi.osi.hu/publications/2008/389/Obiliqi.pdf [hereinafter Obiliq Municipality Development Plan].

[8] Government of Kosovo, Ministry of Energy and Mining, *Strategic Environmental and Social Assessment: Executive Summary*, 31 (June, 2008), http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2008/07/16/000333038_20080716005201/Rendered/PDF/E13670VOL1020Box327408B.pdf [hereinafter SESA Ex. Sum].

[9] This is not exhaustive, but Requesters are particularly concerned about these areas. Additionally, the SESA and Resettlement documents confirm that these areas will be impacted as discussed below.

km^2.[10] The land surrounding the villages is mainly used for agriculture;[11] 48% of the municipality is composed of agricultural land (6800 hectares)[12] and the majority of the local population (approximately 60%) are farmers, many of whom are subsistence farmers.[13]

The estimated date of the KPP's approval by the Bank's Board is November 17, 2012.[14] At present, the Expert Panel tasked with assessing the project's compliance with the SFDCC has screened the project and recommended that it go forward.[15] However, for reasons discussed in Section VI below, this assessment (including the underlying studies conducted under the LPTAP) is inadequate and incorrectly finds that the project is consistent with SFDCCC criteria.[16] If the project proceeds as proposed, it will cause significant harm to the Requesters and the communities they are from.

B. The Lignite Power Technical Assistance Project (LPTAP) (No. P097635)

The proposed KPP is closely linked to the existing technical assistance project, the LPTAP, spanning from 2006 - 2011. The stated objectives of the LPTAP are: (1) to help the Kosovo government strengthen the enabling policy, legal, and regulatory frameworks conducive to new investments in the energy sector; and (2) to assist the Kosovo government in attracting qualified private investors.[17] The project focused on three areas: an assessment of expanded lignite mining in the Sibofc Basin, to determine feasibility for providing sufficient raw material to fuel a 600MW thermal power plant for 25 years; feasibility and market analysis for the construction and interconnection of a new power plant; and technical assistance to the Government of Kosovo to develop policies and strategies to promote renewable energy and energy efficiency in Kosovo.[18] It was also to provide capacity-building assistance to relevant government ministries; provide a mechanism for civil society input into the design of a new plant; and provide funding to the government to improve public consultations.[19]

Through the LPTAP, a Category B project, the Bank has supported certain preparatory activities related to the KPP, including completion of a Strategic Environmental and Social Assessment

---

[10] Population and Housing Census in Kosovo, Preliminary Results (June, 2011), *available at* http://esk.rks-gov.net/rekos2011/repository/docs/REKOS%20LEAFLET%20ALB%20FINAL.pdf.
[11] SESA Ex. Sum., *supra* note 9, at 13.
[12] ObiliqMunicipality Development Plan, *supra* note 7, at 17.
[13] SESA Ex. Sum., *supra* note 9, at 31.
[14] KPP PID, *supra* note 5.
[15] SFDCCC External Expert Panel Report, *supra* note 6.
[16] *See* Steve Herz, Sierra Club, *Issues of Non-Compliance with World Bank's Criteria for Screening Coal Projects Under the Strategic Framework for Development and Climate Change* (Mar. 6, 2012) (on file with author) [hereinafter Issues of SFDCC Non-Compliance]; *see also* Bruce C. Buckheit & Sierra Club, *Affordable Electricity for Kosovo?: A Review of World Bank Group Cost Estimates For New Lignite-fired Plants in Kosovo* (Oct. 2011), *available at* http://action.sierraclub.org/site/DocServer/Review_of_TOR_Final.pdf?docID=8341 [hereinafter Affordable Electricity]; GAP, KIPRED & FIQ Press Release: *Significant errors in the Terms of Reference document for the World Bank's Expert Panel assigned to review new Kosovo lignite based power plan* (Sept., 2011), *available at* http://institutigap.org/repository/docs/ToREnglish.pdf..
[17] World Bank, LPTAP Project Information Document (Mar. 22, 2006), http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2006/03/27/000104615_20060327144114/Rendered/PDF/finalaprpid32206.pdf.
[18] *Id*. at 5-6.
[19] *Id.* at 6.

(SESA) in 2008[20] and a Resettlement Policy Framework (RPF) in 2011.[21] The Bank also prepared an Economic Analysis, but it is unclear whether this was developed through the LPTAP. Nevertheless, this analysis was presented for consideration by the Expert Panel and, in this complaint, is assumed to have taken place in the context of the LPTAP.[22] Additionally, during the Expert Panel's deliberations, the Bank released a more recent analysis of power supply options, updating aspects of an economic analysis, which for the purposes of this complaint, is considered together with the 2006 Economic Analysis.[23] These studies are inadequate and violate a number of World Bank policies, as detailed below in Section V. Moreover, given the nature of the proposed activities under the KPP, a Category A project, these preparatory studies should have followed the higher standards applicable to Category A projects, particularly on consultation and disclosure.

IV. SUMMARY OF HARMS

The Requesters will suffer numerous harms from the KPP due to violations of Bank policies and procedures, including but not limited to: adverse impacts to the environment and human health; inadequate compensation for resettlement; and infringements of labor rights and other human rights.

A. Environmental and Health Harms

Obiliq is one of the most polluted municipalities in Kosovo.[24] The main source of pollution is the existing coal-burning power stations (Kosovo A and Kosovo B), along with heating and drying processes associated with coal production. The burning of coal releases toxic substances and dust

[20] Republic of Kosovo Government, Ministry of Energy and Mining and Ministry of Environment and Spatial Planning, *Strategic Environmental and Social Assessment* (July 11, 2008), http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2008/07/16/000333038_20080716012909/Rendered/PDF/E13670VOL130Box327408B.pdf [hereinafter SESA].

[21] Republic of Kosovo Government, Ministry of Environment and Spatial Planning, *Resettlement Policy Framework for Land Acquisition for the New Mining Field Zone*, (July 29, 2011), http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/08/03/000333037_20110803021703/Rendered/PDF/RP11800v20P0970F0ECA0RI0P0976350RPF.pdf [hereinafter RPF] (noting that the 2008 SESA also contains a version of the RPF in Annex D). The RPF draws from the Government of Kosovo's Spatial Plan. Kosovo Government Ministry of Environment and Spatial Planning, *Spatial Plan: Area of Special Interest 'New Mining Field* (Mar. 2011), *available at* http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/08/03/000333037_20110803021315/Rendered/PDF/RP11800v10P0970IP0976350SpatialPlan.pdf [hereinafter Spatial Plan].

[22] World Bank, Kosovo Lignite Power Initiative, *Proposed Lignite Power Development Project: Economic Analysis* (2006)*, available at* http://siteresources.worldbank.org/INTENERGY2/Resources/27_KosovoLignite_EconomicAnalysis.pdf [hereinafter Economic Analysis].

[23] World Bank, *Background Paper: Development and Evaluation of Power Supply Options in Kosovo* (Dec. 2011) *available at* http://siteresources.worldbank.org/INTENERGY2/Resources/Kosovo_generation_options_report_12312011.pdf [hereinafter Kosovo Power Supply Options]. While this analysis contains more information on project economics, it still does not adequately consider viable alternatives or provide complete information on externalities. *See* Bruce C. Buckheit & Sierra Club, *Reevaluating Kosovo's Least Cost Electricity Option,* (Jan. 2012), *available at http://www.youtube.com/watch?v=bnVUHWCynig&ob=av2e* [hereinafter Kosovo's Least Cost Option].

[24] Obiliq Municipality Development Plan, *supra* note 7, at 19.

into air and ground water, causing significant contamination of the surrounding environment. Despite deficiencies in pollution monitoring in the area, preliminary studies indicate that emissions levels and heavy metal contamination is concerning. In this context, replacing Kosovo A with a new power plant would significantly extend the time span during which this area would have to continue facing pollution from coal mining and combustion. Although both Kosovo B and the new plant will be more efficient than the existing plants, efficiency will also increase capacity, therefore it is unclear (absent strict pollution controls, which are as yet undecided) how much the project will result in diminished pollution overall. Due to the already fragile environmental conditions in this area, the cumulative impacts of the KPP are substantial.

The proposed project will contribute significantly to the pollution in the area. While effects of pollution can be far ranging, the Obiliq municipality and the dense urban capital of Prishtina will be the most heavily impacted by the proposed project. The Requesters will suffer health risks arising from the construction and operation of both the proposed lignite power plants and the lignite mine. These harms include specific disease burdens caused by pollutants and industrial waste, nuisances caused by noise or dust from the operation of the coal mine and coal-fired power plants, and the effects of pollution on vulnerable populations, like children. The Sibofc coal mine and the operation of the Kosovo B and Kosovo C power plants will release toxic pollutants into the atmosphere, including particulate matter, sulfur dioxide, mercury, lead, heavy metals, oxides of nitrogen, carbon dioxide, and acid gases. These air pollutants cause damage to the nervous and circulatory systems. They also exacerbate existing health conditions, like asthma, prevalent in the populations living in the project area due to years of exposure to air pollution. Prishtina Children are also at risk from exposure to lead and mercury, which impair cognitive development, and the acid gases like hydrogen chloride, which cause lung damage.

The Requesters will also suffer harms from water and land pollution. Pollution of the water will occur from industrial materials including coal ash containing heavy metals, fly ash laced with mercury, wastewater from the washing of lignite coal containing selenium, and overflow or failure of impoundments storing "coal sludge," a toxic waste product.[25] Impoundments can fail, causing toxic floods of sludge that render rivers dead zones and contaminate ground water sources. The harm from this water pollution will be exacerbated because the riparian systems of the Kosovo Valley are already highly stressed.[26] The impact of water and land pollution on farmers, who comprise 60% of the population in the affected area, will be particularly profound: farmers rely on agricultural land and water for crop cultivation (including commercial and subsistence farming), thus their livelihoods will be significantly affected by pollution. Food contamination from such pollution is also likely. Moreover, coal waste not only creates surface water contamination, it also pollutes soil and ground water.

B. Labor Harms

The proposed activities, particularly the proposed privatization of mine and plant operations, could adversely affect labor rights. In light of past experience with privatization in Kosovo, it is

[25] A study by the University of Prishtina concludes that the disposal of ash is a major contributor to the high concentration of phenols in the Sitnica River. L. Berisha, T. Arbneshi, and M. Rugova, *The Level Concentration of Lead, Cadmium, Copper, Zinc and Phenols in the Water River of Sitnica*, University of Prishtina (2008).
[26] *Id.*

highly likely that this will harm the rights of Requesters to unionize, organize, and bargain collectively. Requesters are concerned that privatization will lead to job cuts, salary reductions, worsened working conditions, and create a situation in which legal procedures are neglected. The Bank has not sufficiently analyzed the dynamics of the labor market, job creation or unemployment. The Bank assumes that the mine and coal-fired power plants will create jobs, the wages of which will then spill over to the local economy.[27] However, the Requesters are concerned that the jobs that are created will be either temporary, in the case of construction, or will not employ the local workforce without extensive and costly education and job training. The Bank has provided no analysis or accounting of the training necessary to ensure that the economic growth created by the new jobs is local and permanent. Furthermore, the Requesters are concerned that if employees are laid off as a result of the project, there will be no programs to help compensate them.

C. Resettlement Harms

Coal mining and the operation of coal-fired power plants will require the resettlement of populations throughout the 150 km^2 area of the "New Mining Field" (NMF), assessed in the spatial plan for the KPP prepared under the LPTAP.[28] Impacts resulting from involuntary resettlement will cause widespread harm to Requesters. Many Requesters expressed concern during consultations about the adequacy of the resettlement plans, and in particular about proper compensation for destroyed homes and impacts on their work and livelihoods. Physical and economic displacement will also harm subsistence farming in the region, and diminish the livelihoods earned from forest timber products and other secondary income streams. Resettlement will require compensation for agricultural families in the form of productive agriculture lands. However, there is significant doubt that sufficient fertile land exists for this purpose. Resettlement will also harm the social and cultural fabric of communities such as Hade, Leshkoshiq, Shipitulle, and Sibofc. Resettlement could also mean the destruction of important mosques, schools and historic monuments in the region.[29]

V. POLICY VIOLATIONS

The studies and plans conducted through the LPTAP, and reviewed by the Expert Panel, do not meet Bank requirements for Category A projects, the classification for the KPP. If the KPP proceeds as planned, the Bank's failure to comply with its policies will result in significant harms to the Requesters.

A. OP 4.01 – Environmental Assessments

OP 4.01 "requires environmental assessments (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision

[27] SESA, *supra* note 20, at 337.
[28] Spatial Plan, *supra* note 21, at 19.
[29] *See* section V(B)(2), *infra*, on "Consideration of the Full Extent of Impacts" from Involuntary Resettlement. The destruction of these landmarks such as the Holy Tomb of Sultan Murat II near Obiliq, mean a reduction in cultural tourism.

making."[30] While the Bank has not made clear whether the SESA conducted under the LPTAP will serve as the Environmental Assessment for the KPP, at this stage it can only be assumed that this SESA, reviewed by the Expert Panel, is the sole document intended to meet the requirements of OP 4.01. Hence, the SESA is analyzed against the standards of OP 4.01. Further, because the nature of the project assessed by the SESA is a Category A project, it should be assessed against OP 4.01 standards for Category A projects.[31]

There is a fundamental assumption in the SESA that construction of a new power plant (Kosovo C) and the shuttering of an outdated plant (Kosovo A) will be more efficient and hence better for the environment and the people of Kosovo.[32] However, better efficiency would result in increased capacity, and without knowing pollution control measures, it is unclear to what extent overall pollution will diminish.[33] Nevertheless, even if efficiency does result in a marginal improvement, and prospective harms are distinguished from existing ones, the assumption is flawed because of the SESA's failure to account for the full range of environmental impacts of the project. Replacing Kosovo A with Kosovo C will condemn an already heavily contaminated environment with significant health impacts to decades of the same harms that have led to its existing condition. Such prolonged exposure to those harms could cause long-lasting, and possibly irreversible, impacts to the area. It is therefore necessary that the Bank consider existing environmental conditions and assess the long-term cumulative effect of continuing lignite-based power generation.

The current SESA fails to meet the requirements of OP 4.01 in the following areas: inadequate consideration of environmental, health and social impacts; inadequate consideration of viable alternatives; and inadequate and unrepresentative consultations with affected communities. Thus, the Inspection Panel should find that the Bank must conduct a more comprehensive assessment that complies with the requirements of OP 4.01.

1. Consideration of Environmental, Health, and Social Impacts

The SESA did not adequately consider relevant environmental, health, and social impacts that would arise from the KPP. OP 4.01 requires evaluation of a "project's potential environmental risks and impacts."[34] It also provides in relevant part that the "EA take[] into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and physical cultural resources); and transboundary and global environmental aspects."[35] Further, the assessment must examine ways of improving the project by "preventing, minimizing, mitigation, or compensating for adverse environmental impacts."[36]

---

[30] World Bank Operational Policy 4.01, *Environmental Assessment*, 4.01(1) (revised Feb., 2011), *available at* http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,contentMDK:20064724~menuPK:64701633~pagePK:64709096~piPK:64709108~theSitePK:502184~isCURL:Y,00.html [hereinafter OP 4.01].
[31] *See id.; see also* OP 4.01 Annex B.
[32] SESA, *supra* note 20, sec. 6 (discussing potential mitigation measures).
[33] *See* Kosovo's Least Cost Option, *supra* note 23 (discussion of baseload and peak capacity).
[34] OP 4.01(2), *supra* note 30.
[35] *Id. at* OP 4.01(3) (emphasis added).
[36] *Id. at* OP 4.01(2).

The SESA notes in a number of instances that appropriate monitoring devices or data were not available to conduct certain assessments, thus conceding from the outset an inability to fully assess relevant impacts.[37] Failures to adequately consider relevant impacts in the SESA include: air pollution; water and land pollution; unsustainable water usage; transboundary impacts; impacts to the workforce; agricultural impacts; and cumulative impacts.

a. Air Pollution

Operation of the lignite mine and power plants will result in the emission of toxic gases and particulates that have adverse effects on health. The current state of the environment is already very poor; the air is difficult to breathe, and dust from emitted substances lines the ground throughout surrounding villages. The toxicological effects arising from exposure to emitted substances including fine particulates, carbon dioxide (CO_2), sulfur dioxide (SO_2), oxides of nitrogen (NO_x), acid gases, dioxins, mercury and other heavy metals, are significant and are discussed below. The Requesters are concerned about continued exposure to these pollutants because they already face significant health impacts from existing operations.

In general, there is insufficient information on expected pollution controls and resulting emissions estimates, as well as data on air quality for the SESA to adequately assess the impacts of air pollution.[38] With respect to emission levels, OP 4.01(6) presumes that in the absence of a "full and detailed justification for the levels and approaches chosen for the particular project or site[,]" the recommended limits in the Bank's Environment, Health and Safety Guidelines ("EHS Guidelines") apply to Bank projects.[39] For "[p]rojects with significant sources of air emissions," the Bank's EHS Guidelines recommend emissions levels of particulates, NO_2, and SO_2 lower than 150, 200, and 125 $\mu g/m^3$,[40] respectively. The SESA does not identify what specific emission controls would be implemented at the refurbished Kovoso B and Kosovo C, and thus does not adequately assess what emission levels are expected.[41] Without this information it is impossible to assess whether the project would comply with EHS guidelines or OP 4.01 more generally. Furthermore, while the concentration of the acid gases may be effectively reduced through systematic use of scrubbers,[42] the Bank's SESA has not provided a detailed plan to show how Kosovo, with its limited resources and chronic history of underinvestment in maintenance of infrastructure, is equipped to control emissions of acid gases over the long term. Indeed, the Requesters have already expressed concerns that existing filters in Kosovo B are switched off at convenient moments to reduce costs, and that operating more

[37] See e.g., SESA, *supra* note 20, at 77, 150 (noting unavailability of air quality data and water flow rates from plants, respectively).
[38] *See id. at 77.*
[39] OP 4.01(6); *see* World Bank Group, *Environmental Health and Safety Guidelines*, *available at* http://www1.ifc.org/wps/wcm/connect/554e8d80488658e4b76af76a6515bb18/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES (last visited Feb. 28, 2012). [EHS GUIDELINES]
[40] *Id.* The current emissions from the Kosovo plants are even higher than the higher limits that the Bank recommends over short periods. For particulates that are smaller than 10 micrometers, the 150 $\mu g/m^3$ value refers to the daily recommended limit over a 24-hour period; the annual exceedance limit is less than 70 $\mu g/m^3$. The EHS Guidelines recommends daily limits of 75 $\mu g/m^3$ for particulates smaller than 2.5 micrometers. For NO_2, the EHS Guidelines recommend daily and annual limits of 200 and 40 $\mu g/m^3$, respectively. For SO_2, the EHS Guidelines recommend 10-minute and 24-hour limits of 500 and 20-125 $\mu g/m^3$, respectively.
[41] *See* SESA, *supra* note 20, at sec 6 (mitigation measures, in most instances noting the need for feasibility studies).
[42] *Id.* at 39.

advanced scrubbers will result in water shortages in the area. The Bank must demonstrate how pollution controls would be managed to alleviate these concerns. The Bank must also assess whether ambient air quality will be within accepted limits, current monitoring data on air quality is inadequate and needs to be updated.

Noting that the impact of air pollution cannot be fully assessed without knowing the pollution controls and emission levels, a few examples of gaps in data and impacts of air pollution are highlighted below. At the outset, the SESA acknowledges that air quality data is unavailable and that monitoring systems need significant capacity development.[43] In assessing the impact of fine particulates, the SESA notes that the main component of emissions is generated by the mines,[44] but that data on air emissions inside the mines is not available[45] and thus cannot be assessed. Additionally, the SESA does not detail mechanisms that will ensure that monitoring devices to measure emissions levels function as designed over the life of the project. Inefficient removal processes and inadequate monitoring device create uncertainty as to the amount of particulates being emitted and therefore are cause for concern. The World Health Organization[46] has reported a link between fine particulates and respiratory illnesses such as asthma, reduced lung function, and higher incidence of bronchial infections in children.[47] Due to their small sizes, fine particulates easily enter the bloodstream from the lung, and may result in inflammation of the heart and cardiac system.[48] These particulates are also believed to exacerbate the development of lung cancer. Pneumoconiosis or black lung disease is also a serious problem, particularly for mine workers. Without reliable information on the emissions and the related health impacts, it is not possible to adequately consider these impacts.

With respect to sulfur dioxide the SESA fails to adequately detail how sulfur-containing compounds will be effectively removed from the power plants' gas flues. The SESA recommends that a feasibility study be completed for updating of Kosovo B's electrostatic precipitators,[49] which means that further analysis is required to evaluate what abatement measures can be implemented, including any additional impacts. Additionally, as noted above, the SESA fails to adequately detail what, if any, mitigation technologies will be used at Kosovo C.[50] The SESA assumes that Kosovo C will have mitigation technology installed; yet, the SESA also states that "SO_2 could increase from present 13.8 Mt/y to 19.1 Mt/y,"[51] possibly due to a capacity increase. Thus, it is unclear what SO_2 emission levels are likely to be. Health impacts of SO_2 pollution, which include coughing, wheezing, inflammation of breathing passages, and in some cases, can destabilize heart rhythms,[52] are also inadequately discussed in the SESA. The Bank's SESA also fails to adequately consider how nitrogen-containing compounds will be

[43] *Id.* at 77.
[44] *Id. at* 100.
[45] *Id.*
[46] World Health Organization, *Air Quality and Health*, http://www.who.int/mediacentre/factsheets/fs313/en/index.html (last visited Oct. 26, 2011).
[47] PHYSICIANS FOR SOCIAL RESPONSIBILITY, COAL'S ASSAULT ON HUMAN HEALTH (Nov. 2009), *available at* http://www.psr.org/coalreport *citing* W.J. Gauderman et al., *The Effect of Air Pollution on Lung Development from 10 to 18 Years of Age*, 351 NEW ENGL. J. MED. 1057 (2004). [2009 PSR Report]
[48] *Id.* tbl.2.2 at 9.
[49] SESA, *supra* note20, at 333.
[50] *Id.* at sec. 6 (discussing mitigation measures).
[51] *Id.* at 295.
[52] 2009 PSR Report, *supra* note x, at 47.

removed from the new and existing power plants' gas flues. Inhalation of NO_x results in decreased lung function and respiratory diseases in children.[53] Children, the elderly and asthmatic patients are most at risk of harm.[54] There is also insufficient consideration of the health impacts of other pollutants, such as mercury, dioxins, polycyclic aromatic hydrocarbons ("PAHs"), and acid gases.[55]

b. Water and Land Pollution

The Bank's SESA overlooked the impact of heavy metal contaminants (principally mercury and lead) on surface and groundwater sources. For example, mercury emissions can contaminate surface water, and effluent containing mercury can contaminate soil and ground water. This can result in damage to the environment including elevated levels of heavy metals and PAHs in soil and ground water.[56] The contaminated water may become non-potable and unsafe for recreational purposes. Requesters state that surface mining has already contaminated wells in the surrounding area causing health problems for local communities, for example in the village of Cerna Vodica. In addition, preliminary results from the geochemical studies in the SESA showed that concentrations of mercury and nickel in soil already exceed threshold safety levels.[57] An adequate assessment of heavy metal pollution from emissions and effluent and measures that would minimize or mitigate impacts is therefore necessary to comply with Bank policy. However, the Bank did not adequately assess the health and environmental impacts of heavy metals such as mercury. For instance, there is a correlation between environmental pollution and bioaccumulation of heavy metals in some produce.[58] Ingestion, of mercury-contaminated produce can cause damage to the brain,[59] nervous system, kidneys, and skin. Mercury has also been linked to reproductive problems and birth defects.[60] Lead is another heavy metal, released during the combustion of coal, that contaminates water. Exposure to lead has adverse health effects including damage to the developing nervous system, memory, and kidneys.[61]

More generally, the Bank did not adequately consider adverse impacts from the disposal of coal ash and other waste primarily due to insufficient data.[62] It does, however highlight some significant problems with respect to storage of coal ash, noting that some dump sites are not rehabilitated and there is monitoring.[63] Coal ash poses significant health hazards: ash contains

---

[53] *Id.*
[54] *Id.*
[55] *See* SESA, *supra* note 20.
[56] *Id.*
[57] SESA, *supra* note 20, at 128.
[58] See J. Falandysz and L. Bielawski, *Mercury Content of Wild Edible Mushrooms Collected near the Town of Augustow*, 10 Polish Journal of Environmental Studies 67, 68 (2001) (noting higher concentration of contaminants in produce grown in areas that were closer to a smelting plant in Slovakia).
[59] *Id.* at 25.
[60] 2009 PSR Report *supra* note47, *citing* NATIONAL RESEARCH COUNCIL, COMMITTEE ON THE TOXICOLOGICAL EFFECT OF MERCURY, TOXICOLOGICAL EFFECT OF METHYLMERCURY (Washington D.C.: National Academy Press 2000).
[61] American Lung Association, Emissions of Hazardous Air Pollutants from Coal-Fired Power Plants, 19 (Mar. 7, 2011), *available at* http://www.lungusa.org/assets/documents/healthy-air/coal-fired-plant-hazards.pdf [hereinafter 2011 ALA Study].
[62] SESA, *supra* note 20, at 177.
[63] *Id.* at 177-178.

arsenic, lead, cadmium and mercury, and depending on how it is stored may leach into the soil and contaminate groundwater sources. Noting that Kosovo's waste inventory is incomplete, at the time of the SESA, ash made up the largest component of the inventory;[64] and the ash landfills for Kosovo A and B have exceeded their originally intended volume capacities. New mining and power plant operations will compound this problem. Studies to date have not adequately considered these disposal issues.[65] Thus, the Bank needs to provide measures that will adequately address ash disposal as well as other waste.

The Bank's SESA has not adequately addressed reclamation of mining lands following cessation of mining operations. Mitigation of long-term harms could be achieved by reclamation of abandoned mine lands in the future. However, the Bank's SESA has neither provided plans for future reclamation of land at mining sites following cessation of mining activities nor allocated adequate funds to complete restoration of mining sites.

c. Unsustainable Water Usage

The Bank failed to fully evaluate the sustainability of water usage, in violation of OP 4.01(1) and (2). According to the SESA, water flow rates at the existing power plants are not measured,[66] calling into question the accuracy of the water consumption rates that were used in the SESA. Additionally, due to the lack of clarity on air pollution controls, it is unclear to what extent current water estimates include increased water consumption as a result of measures like sulfur scrubbing and carbon capture and storage (CCS).[67] Given competing water demands for irrigation and other uses, this oversight prevents development of meaningful strategies to mitigate the risk of water shortage. The proposed project therefore requires a more accurate water supply analysis and a sustainable water management plan to ensure reliable water supply to all relevant sectors. Furthermore, the Bank must investigate how the project will affect any vested water rights in the area as part of their due diligence.[68]

Kosovo A and B are supplied by the Llapi River and the Iber-Lepenc Canal, respectively; [69] during summer months when the river flow rate is low, water is taken from the Iber-Lepenc canal.[70] The new Kosovo C power plant is expected to get its water supply from the Iber-Lepenc water system.[71] Even if the Bank's projections of water usage are accurate, the heavy water usage at Kosovo C raises questions about the long-term sustainability of the KPP. In fact, communities in the villages of Dardhishte and Cerna Vodica are particularly concerned that a new plant will result in water shortages in the area, and lead to a trade-off between operating the plant and domestic water consumption. According to the SESA, consumption of water at Kosovo C could account for almost 25% of the total demand across the country depending on the

[64] *Id*. at 177.
[65] *See id.* at 176-180.
[66] *Id.* 20at 150.
[67] *See generally, id*. at sec. 6, 141.
[68] Even though most of the municipality is an area of special economic interest, the Bank must assess whether this process is consistent with rights protected under Kosovo's constitution. *See infra,* sec. V.D.
[69] SESA, *supra* note 20, at 142.
[70] *Id.*
[71] *Id.* at 152.

land acreage under irrigation.[72] This projection is based on assumptions that might not hold – no significant changes in weather and rainfall patterns,[73] loss of water in the waterways can be capped at less than 25%,[74] and reducing water consumption by almost 42% in the Prishtina and Mitrovica municipalities by 2016.[75] As the SESA itself notes, reducing consumption in the Prishtina and Mitrovica municipalities "is realistic only if significant investments in the internal potable water distribution network are made."[76] Despite identifying that significant investments in the water management infrastructure will be required, the SESA does not detail how this task will be accomplished.

In addition, unresolved water usage issues, and attendant effects on irrigation, could have adverse effects on attempts to achieve reconciliation among the various ethnic groups within Kosovo. Limited water resources could impose a heavy burden on Kosovo's agricultural industry and could lead to competition between the farmers in rural areas and industrial users in urban areas.[77] SESA has acknowledged the possibility of "competing water demands . . . emerg[ing] in the medium-term (5-10 years) and . . . longer term."[78] The history of civil strife within Kosovo and the region at large underscores the need to monitor catalysts with the potential to rekindle remnant tensions.

d. Transboundary Impacts

The Bank did not adequately consider transboundary effects of the KPP in violation of OP 4.01(3), which requires consideration of "transboundary and global environmental aspects."[79] Air pollution can have significant transboundary impacts on the environment and human health. While CO_2 does not directly affect human health, the costs of increased emissions and global warming disproportionately affect members of the developing world within the Balkans and beyond. Transboundary impacts from SO_2 and acid rain were not adequately considered in the Bank's SESA. Acid rain has devastating impacts on the environment including damage to lakes, streams, and forests.[80] In addition, the transboundary impacts from exposure to toxins were inadequately accounted for in the Bank's SESA.[81] Hydrogen Fluoride particulates can travel distances as far as 500 km.[82] Given that major metropolitan capitals of the Balkans are less than 500 km from Prishtina, the potential scope of injury is significant with individuals in Albania and Macedonia most at risk of injury due to winds blowing in from the north-east.[83]

---

[72] *Id.* tbl.5.1.2.4.a at 301 and tbl.5.1.2.4b at 301.
[73] *Id.* at 303. As the SESA acknowledges, there have been instances in the past where rainfall amounts have been lower than expected. It is also possible that global warming could disrupt weather patterns.
[74] *Id.*at 302.
[75] *Id.* at 303.
[76] *Id.*
[77] In 2005, farmers reported that about 30% of agricultural land was irrigated. European Commission, *Kosovo report,* 11 (Dec. 2006), *available at* http://ec.europa.eu/agriculture/analysis/external/applicant/kosovo_en.pdf [hereinafter 2006 Kosovo Report].
[78] SESA, *supra* note 20, at 303.
[79] OP 4.01(3), *supra* note 30.
[80] U.S. EPA, http://epa.gov/cidrain/.
[81] *See generally* SESA, *supra* note 20.
[82] 2011 ALA Study, *supra* note x, at 61.
[83] SESA, *supra* note 20, at 114. *See also* Economic Analysis, *supra* note 22, at 22, 23, 25 (observing that health impacts will be felt well beyond the Republic of Kosovo).

The Bank has also failed to ensure or to effect notification of riparian states of potential changes in allocated water quotas, in violation of OP 7.50(4). OP 7.50(4) requires that "[t]he Bank ensure[] that the international aspects of a project on an international waterway are dealt with at the earliest possible opportunity. If such a project is proposed, the Bank requires the beneficiary state, if it has not already done so, to formally notify other riparians of the proposed project and its details. If the prospective borrower indicates to the Bank that it does not wish to give notification, normally the Bank itself does so. If the borrower also objects to the Bank's doing so, the Bank discontinues processing of the project. The executive directors concerned are informed of these developments and any further steps taken."[84] OP 7.50(8) also requires that if no consent is obtained, the Bank staff have to assure the board that the project will not adversely impact the other riparian states. It is unclear whether Kosovo has notified riparian states regarding either foreseeable changes in its allocated quota of water or discharges of industrial effluents into the river without treatment. The KPP could place large burdens on Kosovo's allocated quota of water. For example, while the concentration of SO_2 and other acid gases may be effectively reduced through systematic use of scrubbers,[85] use of scrubbers could have implications for enhanced water usage at the power plant.

e. Impacts on Workforce

The Bank has also not adequately considered potential impacts of the local work force.

Local Unemployment: The Bank's assumption that the Sibofc mine and the coal plants will employ a meaningful number of local workers is questionable.[86] According to the Bank, "the number of people employed in mining activities will decrease (due to modernization of technology), will be more than compensated by the increase of people employed at the plants."[87] However, the updated plants will operate with technology that could well eliminate many jobs. Further, Requesters are concerned that employees who are laid off from mining activities and decommissioning Kosovo A will not be re-hired or provided programs for financial support. Additionally, the Government decision to give the management of the existing Kosovo B power plant to the same company that would win the contract for the construction of the new power plant would simply transfer the current monopoly from the public (state-owned enterprise, KEK) to the private sector. This is against the interests of current local employees because they are concerned that privatization will lead to significant salary reductions and job cuts, and infractions of existing laws. Furthermore, due to a lack of adequate provisions in the plan for training, Requesters also fear that skilled labor may be brought in from outside the local region.[88] Without programs to either retrain and/or help provide financial support to workers who are laid off, local communities will suffer significant harms, and the SESA should have taken these considerations into account.

---

[84] World Bank Operational Policy, *International Waterways*, OP 7.50(4).
[85] 2011 ALA Study, *supra* note 61, at 39.
[86] SESA, *supra* note 20, at 337
[87] *Id*. at 292.
[88] GOVERNMENT OF KOSOVO, SMALL, MEDIUM ENTERPRISE DEVELOPMENT STRATEGY FOR KOSOVA 2012-2016, 10 (2011) ("Kosovo has a young, growing labour force that needs to be educated and trained to meet the needs of the country's market economy . . . . [m]ore than 50% of the population of Kosovo is under 25 years old, and 70% under 35.")

Work Safety: Work safety is another significant concern for the local work force. In the last decade, more than 30 work-related fatalities and injuries have been recorded in the whole complex.[89] In some cases, the injuries resulted in significant physical impairment. The use of outdated technology is a contributing factor to these fatalities and injuries. Additionally, during working hours, employees are exposed to emissions of gases, dust, smoke, loud noises, and other health and safety threats. Even though current management has done little to resolve these problems, Requesters are concerned that without strict state regulation, the conditions will only worsen under a private monopoly. This is in light of past instances where, when daily operations were handled by a private company, working conditions worsened. The Bank should have considered the impacts of privatization in this respect in the SESA.

Beyond the occupational dangers of coal mining, the proposed privatization of mine and plant operations could interfere with the right to associate and organize among the coal and power plant workers, as discussed below in section V.D. This is due in large part to past experiences with privatization in Kosovo.

f. Impacts on Agriculture

The Bank has not fully considered the KPP's impact on agriculture within Kosovo, in violation of OP 4.01(3). Heavy metal contamination of produce could reduce demand for Kosovo's produce. In 2006, the agriculture sector accounted for the largest share of employment in Kosovo and contributed to 25% of the Gross Domestic Product.[90] In rural areas, where approximately 60% of the population lives, agriculture provides the main source of income.[91] As of 2005, export of agricultural produce accounted for 16% of the country's export earnings.[92] Decreases in GDP from reduced agricultural exports could reverberate through the economy and threaten delivery of services to vulnerable members of society. Additionally, the expansion of the mine will displace sizable portions of land currently under cultivation for which there is no adequate replacement; much of it used for subsistence farming.[93]

g. Cumulative Impacts

As noted above, consideration of cumulative impacts is particularly important in the context of these projects. OP 4.01(1) provides that the environmental assessment "helps to ensure that [the project is] . . . environmentally sound and sustainable."[94] OP 4.01(3) requires that the "EA consider[] natural and social impacts in an integrated way."[95] These requirements support the consideration of cumulative effects. The project environment is already under significant stress; air pollution, soil and water contamination, and associated health impacts, when taken together, have considerable cumulative impacts for communities living in the area. Simply continuing the same pattern of pollution will only exacerbate the harms to human health and the environment suffered earlier. Even though an older plant would be replaced by a new one under the KPP, the

[89] *See* Appendix 2.
[90] 2006 Kosovo Report, *supra* note x, at 77.
[91] *Id.* Nationwide, the agricultural labor force accounts for about 49% of the total labor force. *Id.*
[92] *Id.* at 10.
[93] *See generally,* Spatial Plan, *supra* note 21.
[94] OP 4.01(1), *supra* note 30.
[95] *Id.* at 4.01(3).

continued contamination of an environment that has suffered significant harms from existing mines and power plants over the past decades could cause irreversible impacts to the environment and human health.[96] And, the KPP would lock the region into decades of the same or worse harms. Furthermore, given the difficulty and length of time involved in cleanup, the burden on affected communities will persist for a very lengthy period into the future, well beyond the lifetime of the power plants.

In short, the KPP will commit the region to a pattern of development that could push the local environment past the tipping point. The SESA has failed to account for this possibility.

2. Consideration of Project Alternatives

OP 4.01(2) requires examination of project alternatives. It also states that the Bank "favors preventive measures over mitigatory or compensatory measures, whenever feasible." In this instance, the Bank has not adequately considered alternatives that would eliminate the numerous social and environmental harms associated with coal mining and combustion identified above. Particularly given the cumulative impacts involved, project scenarios that *prevent* environmental and social harms are preferred. Recent analyses by the Renewable and Appropriate Energy Laboratory at the University of California Berkeley, and the Kosovar Institute for Development Policy and Sierra Club support the conclusion that a combination of energy efficiency measures and renewable energy sources are meaningful alternatives to the current proposal for Kosovo's energy sector.[97]

The SESA reflects the Bank's failure to meaningfully consider viable alternatives in two important respects. First, the Bank did not adequately consider alternative energy efficiency projects that would reduce base load demand and mitigate risks from operation of the power plants.[98] The marginal abatement benefits from such projects are high, they are generally cheaper to implement, and they create more jobs.[99] For example, providing insulation to buildings could significantly reduce existing inefficiencies, and result in many jobs. Furthermore, elimination of transmission losses would reduce base load demand and significantly curtail production of CO_2 and other toxic substances. Transmission losses accounted for almost 50% of the electricity generated between 2000 and 2006;[100] the magnitude of these losses exceeded the electricity that was generated from Kosovo A.[101] With upgrades to the transmission grid, Kosovo A could be decommissioned without compromising the production of electricity relative to the status quo. It appears that the Bank is counting on privatization of

---

[96] The assumption is based on the Development Plan for the Sibofc mine, which is expected to function for 4-5 decades, at least. SESA, *supra* note 20, at Annex B.

[97] *See* Daniel M. Kammen, M. Mozafari and D. Prull, *Sustainable Energy Options for Kosovo An Analysis of Resource Availability and Cost* (Jan. 15, 2012)*, available at*, http://rael.berkeley.edu/energyforkosovo [hereinafter Kosovo Alternatives Study]; Kosovo's Least Cost Option, *supra* note 23; Affordable Electricty, *supra* note 16.

[98] *See* Kosovo's Least Cost Option, *supra* note 16.

[99] *See, e.g.*, Per-Anders Enkvist et al., *A Cost Curve for Greenhouse Gas Reduction*, McKinsey Quarterly (Feb. 2007).

[100] SESA, *supra* note 20, tbl.4.1.1.1b at 235.

[101] *Id.* at tbl.4.1.1.1a & tbl.4.1.1.1b. In 2006, about 900 GWh was generated from Kosovo A; transmission losses accounted for about 2190 GWh.

the grid to remedy these losses.[102] Instead, the Requesters urge the Bank to consider the sector as a whole and stem these losses before deciding to invest in building new generating capacity.

Second, the Bank did not adequately consider the potential of renewable energy sources. While the Bank's Project Information Document references hydropower generation,[103] the SESA made no significant mention of this resource. In fact, development of hydropower resources could add up to 365 MW without attendant pollution problems[104] because the energy from a 365-MW hydroelectric plant over 24 hours in a year equals about 3200 GWh. Additionally, despite "initial indications of some limited potential," "the full wind potential has not been studied."[105] The potential for solar energy, particularly small-scale systems, is also not fully examined.[106]

The CO_2 reduction strategy in the Bank's SESA is also at odds with OP 4.01(2). The SESA notes that CCS is an option for reducing CO_2 emissions.[107] However, it also acknowledges that CCS technology is a "relatively untried concept" over the long term.[108] In addition, "the fuel needs of a coal-fired plant with [C]CS [would increase] by about 25%," thereby increasing electricity prices and environmental impacts of the plant.[109] Investment in energy efficiency projects and renewable energy sources would eliminate or reduce the need for CCS and other mitigatory projects.

3. Inadequate Disclosure and Consultation

The Bank did not adequately follow the requirements for public consultation and failed to ensure that access to information in affected communities occurred in a meaningful manner, in violation of OP 4.01(15). OP 4.01(15) addresses disclosure requirements and states that "[f]or meaningful consultations between the borrower and project-affected groups and local NGOs on all Category A and B projects proposed for IBRD or IDA financing, the borrower provides relevant material in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted."[110]

Requesters state that local consultations were limited, that the harms associated with the project were not meaningfully discussed, that their concerns were rarely addressed in a satisfactory manner, and that the local union was not included in the consultations despite the concerns around local employment. Furthermore, for the last three years, there has been no Bank contact with the local communities about the proposed project. Some of the specific concerns raised during consultations include: uncertainty about the resettlement process and which villages will be resettled; what measures would be taken to improve environmental conditions and access to

[102] This is through a related IFC Advisory Services Project. *See* http://www.ifc.org/ifcext/spiwebsite1.nsf/0/852568b10055270d852576b0007a3338?opendocument&Highlight=0,kosovo.
[103] KPP PID, *supra* note 5, at 2.
[104] *Id.*
[105] *Id.; see also* SESA, *supra* note 20.
[106] *See generally,* SESA, *supra* note 20.
[107] *Id.* at 294.
[108] *Id.*
[109] *Id.*
[110] OP 4.01(15), *supra* note 30; *see also* World Bank Information Disclosure Policy.

water for domestic uses; electricity prices, particularly given the expected privatization; and the impact on local employment. In one instance, the Requesters expressed their desire to be informed and consulted in the tendering process for the privatization, however, to date, neither the Kosovo Government nor the Bank have provided them with any information in this regard.

Additionally, even though consultations and meetings were arranged with affected villages in Kosovo, the consultations were insufficient and non-representative, for the following reasons: (a) while approximately 20% of the individuals in ten villages within the Obiliq municipality participated in surveys to determine residents' concerns regarding the KPP, in four villages the participation rates were significantly lower than in the other six: less than 100 people participated in the surveys in each of these four villages;[111] (b) the studies do not indicate the extent to which participation across gender and ethnic lines was achieved; (c) at subsequent consultation meetings to disclose survey findings to villages within the Obiliq municipality, the average attendance was seventy;[112] and (d) the proximity of the Obiliq municipality to Prishtina suggests that the 500,000 residents within the greater metropolitan area should have been informed and consulted. These shortcomings underscore the inadequacy of the consultation process.

B. OP 4.12 – Involuntary Resettlement

The Bank's Resettlement Policy Framework (RPF) and associated documents, developed under the LPTAP and "intended to apply to all aspects of the Lignite Power Project,"[113] does not fulfill the requirements laid out by OP 4.12 to avoid, minimize, and fully compensate for involuntary resettlement that the KPP will cause.[114] Thus, the KPP will likely violate numerous provisions of OP 4.12 necessary to mitigate the "long-term hardship, impoverishment, and environmental damage that involuntary resettlement causes."[115]

Although final Resettlement Action Plans ("RAPs") are yet to be developed, the RPF and associated documents, which establish the parameters for the RAPs, can be assessed against OP 4.12 to determine whether the framework adequately incorporates relevant considerations and whether it was developed with adequate consultation. In this regard, the following aspects are particularly relevant: consideration of project alternatives; consideration of the full extent of impacts; compensation for lost agricultural land, and community consultation.

1. Consideration of Project Alternatives

OP 4.12(2) states that "[i]nvoluntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs."[116] This means that when a proposed project is likely to lead to involuntary resettlement, the Bank must explore all viable alternative projects. As noted above, the Bank has not considered viable alternative projects, particularly

[111] SESA, *supra* note 20, tbl.3.4.4a at 201.
[112] *Id.* at 194.
[113] RPF, *supra* note 21, at 4.
[114] In addition to the RPF, the Spatial Plan is relevant in this context.
[115] World Bank Operational Policy 4.12, *Involuntary Resettlement,* OP 4.12(2).
[116] *Id.*

those that could be carried out with minimal or no resettlement, in contrast to the substantial displacement anticipated by the KPP. Such minimally disruptive alternatives include project scenarios that address transmission losses and increase energy efficiency projects, as well as promote renewable energy projects.[117]

2. Consideration of the Full Extent of Impacts

The KPP will lead to widespread displacement, both in terms of outright confiscation of land and in terms of environmental and health impacts that will render areas within the Obiliq municipality unlivable. It will also result in loss of agricultural lands and livelihoods, and degradation of sites of cultural, historic, and religious importance. These impacts fall within the "direct economic and social costs" that OP 4.12 requires resettlement programs to cover and will likely exceed those accounted for under the RPF. Additionally, when physical resettlement is envisioned, the Bank must ensure that displaced persons are "provided with residential housing, or housing sites, or, as required, agricultural sites for which a combination of productive potential, locational advantages, and other factors *is at least equivalent to the advantages of the old site*."[118] As discussed below, this is unlikely to happen, based on current proposals.

While the SESA and the Government Spatial Plan examine a number of impacts associated with resettlement, some issues are not fully analyzed, including: land tenure issues; the extent of displacement; and lost livelihoods as a result of lost agricultural land. Requesters note that because most villages have been designated areas of special economic interest by the Government, they can be relocated at any moment and the municipality cannot function effectively with this uncertainty. The Government has already resettled some residents, and others do not know if or when they will be resettled. Thus, there is great urgency to clarify plans for resettlement and compensation schemes, including for those who have already been displaced.

Bank documents make clear that impacts will extend throughout the New Mining Field (150 km^2 area), as well as areas affected by plant operations.[119] As part of its due diligence, the Bank should ensure that issues relating to property claims are resolved prior to resettlement. There are two main ways in which property rights issues may arise in this instance: the confiscation of the land itself; and the ownership of land in areas where people will be resettled. Requesters state that in 2004, the Government of Kosovo declared the villages of Hade, Sibofc, Leshkoshiq and Cerna Vodica as areas of special economic interest, which effectively allows the Government to initiate relocation of residents as needed. In March 2009, three additional Obiliq villages of Fushe Kosova, Vushtrria, and Drenas were declared an area of special economic interest due to the granting of the New Mining Field. The Bank must examine whether this government designation of special economic interest and subsequent relocation is in line with Bank policy as well as relevant national and international law.[120] Additionally, the RPF states that in terms of eligibility for resettlement and compensation, if an individual claims ownership of land but cannot show full legal title, the Project Company's resettlement office will review the claim.

[117] See section V.A.2, *supra*, on "Consideration of Project Alternatives."
[118] OP 4.12(6).
[119] Spatial Plan, *supra* note 21, at 19.
[120] For example, is it consistent with rights respected under the Constitutions, as discussion in Section V.D.

But, it is not clear what this office is and how it would be managed.[121] The Inspection Panel should consider whether this process is adequate to ensure that any resettlement occurs in line with Bank policy. Further, controversy exists over ownership of lands designated for restoration and resettlement, as "previous land owners (whose lands were expropriated during the nationalization period) have filed cases to regain property rights."[122] These issues must be resolved before further resettlement takes place. While the RPF does envision a grievance process,[123] this is hardly a replacement for resolving land titles beforehand.

Due to the declaration of special economic interest and the resulting uncertainty as to when homes will be condemned to make way for the new mine and plant, the economic and social development of the municipality of Obiliq is effectively paralyzed. To date resettlement documents do not clarify the extent of intended resettlement and do not fully consider the fact that the municipality has been in this state since 2004.[124] The impacts of the KPP will require significant resettlement and associated compensation.[125] According to the SESA, KPP development will most adversely affect the Obiliq municipality, which has a population of approximately 21,500.[126] Four villages will be severely affected by new lignite extraction and will require physical relocation. These villages include: Hade (5 km^2 and 2900 inhabitants); Leshkoshiq (3.7 km^2 and 1300 inhabitants); Shipitulle (1 km^2 and 100 inhabitants); and Sibofc (7.4 km^2 and 2020 inhabitants).[127] So far, the Government has partially relocated residents of Hade; those who remain continue to live in homes next to the Kosovo Electric Corporation (KEK) mine site. Of the relocated residents, some were relocated to Shkabaj village in Obiliq, others were moved to two residential complexes in Obiliq: Hade 1 and Hade 2. The Government has failed to adequately compensate displaced inhabitants, or ensure their economic stability and social integration.

The remaining settlements, including the municipal center of Obiliq itself, will experience significant impacts from lignite power generation. In particular, three settlements (Dardhishte, Cerna Vodica, and Berisha), with over 3300 inhabitants, lie "within a triangle of degrading influence" and will be heavily affected by facilities for electricity generation, ash dumps, waste landfills, and mineral developments.[128] For example, in Cerna Vodica, coal transportation belts run right through the village and cause significant disturbance to residents. Additionally, several government documents (attached) indicate that the village of Dardhishte, separated only by a road from the Kosovo A plant, is not fit for inhabitation and should be relocated. However, despite attempts to raise these concerns, residents have received no response from the Government or the Bank, as to whether they will be relocated and if so, how that will happen. Currently, the remaining residents of Hade do not know when relocation will occur. Residents of other villages do not know if they will be relocated or not. Requesters urge that they be

[121] RPF, *supra* note 21, at 12.
[122] Environmentally and Socially Sustainable Development Unit, Report No: 35870-XK, *Project Appraisal Document on a Proposed Grant*, 14, (May 15, 2006)
[123] *See* RPF, *supra* note 21.
[124] *See id.*
[125] Spatial Plan, *supra* note 21. at 65.
[126] Kosovo Census, *supra* note 10.
[127] Spatial Plan, *supra* note 21, at 40.
[128] *Id.*

informed and consulted about current plans for resettlement, and that any resettlement process be supervised to ensure that they are implemented effectively.

The RPF also does not adequately consider the loss of agricultural lands and livelihoods in this context. According to the Kosovo government, approximately 60% of the population living in the region are farmers, working in agricultural enterprises or for subsistence.[129] The majority of residents have "very low" incomes and "depend on extensive agriculture for [their] survival."[130] A quarter of the population also supplements family income by 10% through the harvesting and sale of timber. The new Sibofc mine will directly convert 13% of the land in the Obiliq municipality, comprising fertile agricultural lands, settlements, roads, and forests on which these populations depend for food and livelihoods.[131] The development of infrastructure for transportation of coal and ash, and impacts of dust, acid rain, and ash from landfills will further degrade agricultural lands and forests.[132] The RPF's solution to this land shortage – its heavy reliance on the use of rehabilitated lands as alternative farmland for displaced persons[133] – is inadequate. For example some land has "residual contamination levels"[134] that would make it difficult to rehabilitate for agricultural purposes. Requesters are concerned that there is insufficient agricultural land to restore livelihoods, and that there is no commitment from the Government or the Bank to provide programs for alternative economic integration. If resettlement occurs without suitable solutions to these issues, it would violate Bank policy because displaced persons have not been provided options that are equivalent to their previous situation.[135] Thus, if the Bank cannot provide a better solution for the problems arising from lost agricultural land, it will be unlikely to meet the requirements governing land-based resettlement.

KPP development will further compromise the social and cultural infrastructure of the affected zone. The four villages that will require immediate resettlement contain secondary schools, health facilities, and mosques, as well as historic memorials in both Hade and Shipitulle. The relocation of these communities will "disrupt[] social networks" and "lead to a loss of cultural heritage and local memories."[136] These adverse social and cultural impacts will compound the difficulties that these project affected communities have already endured due to the "vagaries of war and the challenges of living near the mine and power plants."[137] The KPP may also reduce cultural tourism to the Holy Tomb of Sultan Murat II near Obiliq, which brings approximately 20,000 visitors to the area each May.[138] The RPF should include these considerations.

[129] *Id.,* at 68.
[130] *Id.,* at 69.
[131] SESA ex. sum., *supra* note 8, at 31.
[132] Spatial Plan, *supra* note 21, at 80.
[133] *Id*.
[134] SESA, *supra* note20, at 254.
[135] OP 4.12(6) and (11).
[136] SESA, *supra* note 20, at 315.
[137] *Id.*
[138] Spatial Plan, *supra* note 21, at 69.

3. Compensation for Lost Agricultural Land

OP 4.12 states that "preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land based."[139] When land is offered, it should be "at least equivalent to the advantages of the land taken."[140] OP 4.12 also provides that when land-based options are not available, "non-land-based options built around opportunities for employment or self-employment should be provided in addition to cash compensation for land and other assets lost."[141] At this stage, resettlement plans do not adequately address the compensation implications of the lack of suitable replacement agricultural land for a resettled population. As noted above, the area planned for mining development is largely composed of fertile land,[142] and it is principally inhabited by large families who work in agricultural enterprises or independently as subsistence farmers. The SESA concluded that "there is not enough replacement agricultural land to resettle people who rely on farming for their livelihoods."[143] Additionally, the RPF acknowledges that "there is an acute shortage of good agricultural land in the area around the proposed mining and power complex."[144] Requesters note that relocated Hade residents, mostly farmers, are now housed in apartments with no access to land and little assistance to integrate into their new situations. They are also uncompensated for their lost agricultural land. The Bank must ensure that adequate compensation is provided, and these costs should be included in the externality costs of the proposed project.

4. Inadequate Community Consultation

Inadequate community consultation in development of plans for resettlement to date has led to the underestimation of resettlement and compensation that will be required due to loss of lands, residences, and livelihoods. Community consultation is necessary to appropriately value affected assets,[145] involve the public in decision-making processes, manage impacts on vulnerable groups, and resolve grievances, among other benefits.[146] OP 4.12 Annex A(15) contains requirements for community consultation for resettlement plans, including an RPF.

As noted above, the overall community consultation process was inadequate, and there has been little to no contact with local communities for the last three years. While it is important to note that some resettlement occurred before Bank involvement in the project, subsequent Bank consultation around resettlement is inadequate. With regard to prior consultation, the SESA itself notes that consultation with communities in the area was "poor or non-existent,"[147] and led to widespread discontentment and the migration of residents from surrounding villages.[148] In the village of Hade, for instance, previous activities related to the proposed project activities resulted in the resettlement of 85 families, who have been left with inadequate housing and

[139] OP 4.12(11).
[140] *Id.*
[141] *Id.*
[142] SESA ex. sum., *supra* note 8, at 31.
[143] *Id*. at 62.
[144] RPF, *supra* note 21, at 13.
[145] *Id.* at 17.
[146] *Id.* at 23.
[147] SESA, *supra* note 20, at 317.
[148] *Id.,* at 313.

compensation.[149] The 495 families remaining in Hade endure economic hardships and suffer from environmental and health impacts,[150] including from "current pollution levels, extensive noise coming from current activities at the power plant and insecurity about the future progress the new mine."[151] Nevertheless, even after Bank involvement, and more than seven years after the decision to relocate Hade residents, the process of relocation is incomplete, residents have not been compensated adequately, and there is little to no information about how residents' concerns will be addressed. The citizens who are still in Hade, expecting to be relocated, have no information on how their relocation is going to take place, the location of their future settlement, how they will be compensated, or when this process will begin. Residents of other villages where resettlement could take place in the future are also concerned by the lack of information and consultation. These hardships will likely continue under the development of the KPP unless the Bank remedies deficiencies in community consultation and compensation.

C. OP 10.04 – Economic Analysis

The Bank's current economic analyses for the proposed Kosovo C fail to meet the requirements of OP 10.04. According to OP 10.04(1), the Bank must "conduct [an] economic analysis to determine whether the project creates more net benefits to the economy than other mutually exclusive options for the use of the resources in question."[152] This includes exploring project alternatives and considering the externalities of a particular project, neither of which were done adequately in this case. OP 10.04(2) explains that the Bank is required to ensure that (1) "the expected net present value ("NPV") of the project's net benefits [is] not . . . negative"[153] and that (2) the NPV is "higher than or equal to the expected net present value of mutually exclusive alternatives."[154] In conducting an NPV analysis the Bank must consider a number of different factors, including "domestic and cross-border externalities,"[155] long-term sustainability,[156] and risk.[157]

Although an economic analysis was conducted, presumably under the LPTAP,[158] this analysis was cursory and incomplete, and does not meet the requirements of OP 10.04. As described below, it fails to adequately account for project costs and externalities, fails to consider alternatives such as, energy efficiency schemes, hydropower, wind power, or solar energy, and fails to adequately consider long-term sustainability. The Expert Panel reviewing the KPP commissioned a new analysis, which the Bank release in December 2011 entitled Background

[149] SESA ex. sum., *supra* note 8, at 31.
[150] "Conditions for those still occupying the village are poor, with 26% earning significantly below average income and 21% living on less than 30 Euros a month. Environmental conditions are also a leading factor. The close proximity of the mine results in impacts from noise, particulate and safety issues related to the large trucks traveling on local roads." *Id*.
[151] SESA, *supra* note20, at 215-16.
[152] World Bank Operational Policy on *Economic Analysis*, OP 10.04 (1) [hereinafter OP 10.04].
[153] OP 10.04(2).
[154] OP 10.04(2).
[155] OP 10.04(8).
[156] OP 10.04(5).
[157] OP 10.04(6).
[158] Economic Analysis, *supra* note 22.

Paper: Development and Evaluation of Power Supply Options in Kosovo.[159] However even this analysis falls short of OP 10.04 requirements for similar reasons. Further, even if the Bank corrected the shortcomings of the current analyses and accounted for relevant costs and risks listed below, the KPP would very likely not meet the Net Present Value test required by OP 10.04(2).

1. Project Costs and Externality Costs

The Bank claims "Kosovo's lignite is currently the least-cost option even after accounting for externalities."[160] However, the Bank failed to adequately consider project costs, including externality costs. For example, the analysis fails to appropriately account for the costs of: improved water provision and transportation infrastructure; employee training; environmental and health harms, abatement technologies and associated impacts; lost agricultural production and resettlement; and mine closure. These costs, if properly factored in, will significantly increase overall project costs.

The Bank's analyses are silent on the costs of managing and already stressed water system, and the costs of building adequate transportation infrastructure.[161] Stress on the supply of water is a significant concern in the Iber-Lepenc water system,[162] which is the expected source of water for the new mine and power plant. To meet the increased demand, the costs of improving the water systems must be accurately measured.[163] Additionally, the project will require updating transportation infrastructure. The heavy industrial equipment needed for the KPP may need to be shipped from outside of Kosovo and airlifted into the project site.[164] Updating this infrastructure, or alternatively airlifting industrial parts around it, has not been not adequately priced.

With respect to local employment, although the Bank's analysis assumes that the project will create jobs,[165] it does not examine the cost of training programs necessary to ensure that local populations will have employment at the coal mine and the coal-fired power plants.

The Bank does not adequately address costs associated with damage to the environment and human health. First, the analyses so far focus *solely* on the environmental costs of air

[159] Kosovo Power Supply Options, *supra* note 97.
[160] KIP PID, *supra* note 5.
[161] *See generally* Economic Analysis, *supra* note 22 (failing to examine water supply costs).
[162] SESA, *supra* note 20, at 303 ("The Water Exploitation Index (WEI), calculated on the basis of the yearly average water demand (198 million m^3), and the yearly water availability, equal to 410 million m^3 as the multi-annual average and 250 million m^3 as the worst year case, is 48% and 79% respectively which are significantly above the WEI warning threshold of 20%, distinguishing the non-stressed from a stressed region.").
[163] KIPRED, *World Bank Kosovo Lignite Power Project: Full Cost Accounting*, 2 (Oct., 2011) (citing reports and concluding that "[t]he cost of these required water system improvements needs to be accounted for by the project financial analysis.") (on file with author) [hereinafter Full Cost Accounting].
[164] *Affordable Electricity*, *supra* note x, at 10 ("Kosovo does not have the capacity to manufacture the specialized components needed – only a few countries do. Accordingly, the plant will essentially be imported and likely have to be shipped several thousands of miles. Kosovo is land locked and so, the large components that will be fabricated elsewhere will then have to be trucked many miles over poorly maintained roads or rails – negotiating switchbacks, tunnels and possibly requiring air lifting of heavy components at certain points.")
[165] SESA, *supra* note 20, at 337.

pollution.[166] Beyond air pollution, the Bank's analysis fails to cover other relevant costs, such as waste management and health impacts of land and water pollution. Furthermore, the cost of abatement technologies and related impacts, particularly for dealing with harmful air pollutants is not adequately considered.[167] Also, the Bank's economic analysis compares the environmental costs of the lignite power plants only with fuel and gas alternatives, not renewables.[168] This significantly affects the cost benefit analysis in relation to project alternatives. Second, the assumptions used for the 2006 environmental cost estimates are unclear and the estimates do not provide a clear picture of the environmental and health costs associated with the project. The Bank's projection for environmental costs for the Kosovo plants is 15 Euros per MWh, and it is unclear what assumptions were made in the modeling that led to this figure.[169] As yet, it is unclear what specific pollution controls will be in place for Kosovo B and C, and thus what the emission levels and associated costs will be.[170]

The Bank's analysis also does not adequately account for lost agricultural land and costs of resettlement. Sixty percent of the population in the project site relies on agriculture for their livelihood, either through subsistence farming or cash crop production.[171] In addition to lost production because of competition for water resources, the mine is converting fertile land.[172] The Bank's analysis does not account for these opportunity costs, nor does it account for the lack of agricultural land to resettle persons who rely on farming for their livelihoods.[173] Furthermore, the SESA contemplates the use of "reclaimed land" for agricultural uses, presumably for populations displaced by the project.[174] Converting reclaimed land into land suitable for farming will entail substantial costs.[175] These costs were not included in the Bank's analysis.[176]

---

[166] *Accord* Economic Analysis, *supra* note 22, at 8 ("The model used here is the latest dispersion modeling (ECOSENSE) developed and maintained by the University of Stuttgart.") *with* ECOSENSE 4.0: USER'S MANUAL, INSTITUTE OF ENERGY ECONOMICS AND THE RATIONAL USE OF ENERGY 1 (2005), *available at* available at: http://ecoweb.ier.uni-stuttgart.de/ecosense_web/ecosensele_web/ecosense4um.pdf ("*Ecosense* provides relevant data and models required for an integrated impact assessment *related to airborne pollutants*.")(emphasis added). Note that Kosovo Power Supply Options analysis also relies on this 2006 analysis.

[167] *See generally,* Economic Analysis, *supra* note 22.

[168] *See id.* at 8 (for the purposes of environmental costs, only "two comparator plants were considered – a heavy oil and a combined cycle gas turbine.").

[169] Kosovo Power Supply Options, *supra* note x, at 97.

[170] Additionally, it is useful to assess whether new models are available for calculating externality costs. European Environmental Agency's (EEA) damage cost figures, based on 2009 data, for damage costs of air pollutants released from coal plants is presented as an aggregated range. *See* EEA Report, *Revealing the Costs of Air Pollution in Europe*, 25 (2011), *available at* http://www.eea.europa.eu/publications/cost-of-air-pollution. For example, the TETs Maritsa Iztok-2 coal plant in Bulgaria (at 1450MW, which would be 250 MW more than Kosovo B and C combined), has an aggregated damage cost range of 1432-3339 million Euros for select air pollutants. *Id.*

[171] Heike Mainhardt-Gibbs, *Kosovo Lignite Power Project: Resettlement Costs* (Dec. 2011) (citing SESA (2008)) (on file with author).

[172] *Id.*

[173] *See generally* Economic Analysis, *supra* note 22 (failing to evaluate the opportunity cost of agriculture and the economics of agricultural land provision).

[174] WORLD BANK, DRAFT SIBOVC DEVELOPMENT PLAN, 22 (contained in the SESA, contemplating land reclamation for agricultural activities).

[175] Full Cost Accounting, *supra* note 163, at 2 ("The Resettlement Framework seems to imply that it will rely heavily on the usage of reclaimed land, which would pose substantial costs and time to make it suitable for living/farming – costs currently not accounted for in the World Bank project analysis.")

[176] *See generally* Economic Analysis, *supra* note 22.

Finally, at the end of the project period, the Sibofc mine will need to be closed and the land returned to its previous condition.[177] The Bank's economic analysis does not address these costs, though the costs associated with mine closure and reclamation will be substantial.[178]

2. Meaningful Alternatives

The omissions of significant costs and a failure to capture key variables in its risk analysis are symptoms of the Bank's general failure to conduct a proper analysis of meaningful alternatives, which is "one of the most important features of proper project analysis."[179] The Bank's analysis does not examine a meaningful mix of base, load-following and peaking units.[180] It also fails to analyze the cost-effectiveness of a common clean source peaking unit: hydropower.[181] Hydropower resources are particularly relevant for the KPP project area, as the Bank describes the Kosovo's river system as a "well developed hydrological network."[182] The Kosovo Energy Plan discusses at least two feasible hydropower sources: the HPP Zhhur and the HPP Ujman.[183] In another study the Bank and the EU Commission describe Kosovo as having "significantly more potential" for hydropower development than is currently utilized.[184] Furthermore, the analysis does not contain assessments of other renewable energy sources, such as the potential for wind and solar power, nor adequate consideration of energy efficiency measures.[185] As noted above, recent studies show that Kosovo could meet its energy needs by using a combination of an upgraded Kosovo B, energy efficiency measures, and renewable energy sources.[186] The Bank should consider these alternatives before deciding to fund a new power plant in an already stressed environment.

3. Risk Analysis and Long-term Sustainability

The Bank's economic analysis omits critical risk analysis variables that, if included, would significantly impact the NPV. To assess risk, the Bank must conduct a risk analysis that "estimates the switching values of key variables . . . and the sensitivity of the project's net

---

[177] This is required by THE WORLD BANK, TOWARD SUSTAINABLE DECOMMISSIONING OF OIL FIELDS AND MINES: A TOOLKIT TO ASSIST GOVERNMENT AGENCIES, (2010).
[178] *Id.* at Forward. ("These operations and the associated infrastructure will require complex and costly dismantling; technical and environmental restoration and rehabilitation measures; and socioeconomic investments to counteract retrenchment, post-closure economic downturns and other effects associated with the end of the project's productive life.")
[179] OP 10.04(3).
[180] For definitions of these terms see *Affordable Electricity*, *supra* note 16, at 10-11 ("[B]ase load units [] have a high capital cost, but low operating costs and overall COE ["cost of electricity], load-following units [] have lower capital costs, higher operating costs and overall COE and peaking units, with lowest capital costs, but high operating costs and COE.")
[181] *Id.* at 14.
[182] SESA ex. sum., *supra* note 8, at 22 (emphasis added).
[183] Energy Law Strategy for Kosovo, 25-26.
[184] THE WORLD BANK & EU COMMISSION, KOSOVO: TECHNICAL BACKGROUND PAPER ENERGY SECTOR, 15 (July 7, 2008).
[185] *See generally,* Economic Analysis, *supra* note 22.
[186] Kosovo Power Supply Options, *supra* note 97; Kosovo's Least Cost Option, *supra* note 23.

present value to changes in those variables."[187] To perform these calculations, Bank guidance specifies "identifying the variables that most influence a project's net benefits and quantifying the extent of their influence."[188]

First, the Bank's analysis did not consider variation in electricity demand due to time of day, season, and weather.[189] This temporal variation in use means that cost-effective energy supply of electricity is best achieved through a mix of base load units, load following units, and peaking units.[190] Second, the Bank's analysis fails to incorporate volatility in the price of coal. Coal inputs can be a significant and highly volatile variable in the cost of generating electricity[191]. The Bank erroneously assumes a 10-year old cost estimate of 0.89 € /GJ, substantially lower than estimates for other countries in the region.[192] Third, the Bank's analysis fails to account for the highly volatile construction costs of the project. Since the Bank's economic analysis was performed, construction costs have spiked.[193] These key variables, if adequately addressed, would substantially alter the NPV for the KPP.[194]

Additionally, the Bank must "assess[] the robustness of the project with respect to economic, financial, institutional, and environmental risks," including "whether critical private and institutional stakeholders have or will have the incentives to implement the project successfully."[195] It appears that the Bank assumes the KPP will provide a significant opportunity to provide electricity to the regional market.[196] An important factor here is the regulatory landscape in the European Union (EU), which is moving towards incentivizing renewable energy-based power generation and disincentivizing dirty energy sources. This could make fossil fuel-based power much less lucrative to export (and exports are expected from Kosovo C), especially to EU member countries, and thus threaten the long-term sustainability of the project and its development impact. Additionally, if Kosovo plans to accede to the EU in even the next 20 years, they would be subject to pollution pricing pursuant to the EU Emissions Trading Scheme or Directive 2003/87, which could be a significant financial burden. The Bank's due diligence should include these types of legal requirements that are likely to apply during the

[187] OP 10.04(6) ("Switching values" are defined as "the value that each variable must assume to reduce the net present value of the project to zero" about which sensitivity is detailed as " e.g., delays in implementation, cost overruns, and other variables that can be controlled to some extent.")
[188] Handbook on Economic Analysis of Investment Operations, Chapter 12 ¶ 3, *available at* http://siteresources.worldbank.org/INTCDD/Resources/HandbookEA.pdf (last visited Mar. 2012). The Bank should "[a]t the very least . . . identify the critical variables that determine the outcome of the project, that is, the values that increase [or decrease] the likelihood that the project will have the expected positive net development impact." *Id.,* at Chapter 2 ¶ 18.
[189] *Affordable Electricity*, *supra* note x, at 11; *see also* Kosovo's Least Cost Option, *supra* note 23.
[190] *Affordable Electricity*, *supra* note x, at 10-11; *see also* Kosovo's Least Cost Option, *supra* note 23.
[191] Full Cost Accounting, *supra* note 163, at 1.
[192] *Affordable Electricity*, *supra* note x, at 16 (citing figures of 1.71 € /GJ for Bosnia and Herzogovnia, 2.44 € /GJ for Montenegro, and 1.34 € /GJ for Serbia, among others.)
[193] *Id.* at 8-9 (citing, *inter alia*, DOE figures).
[194] *Id.* at 17 ("Assuming a reasonable load factor for [Kosovo B & Kosovo C] doubles the predicted LCOE of those units. If one then simply adjusts the outdated cost estimates to reflect the change in the Power Capital Cost Index, the effect is to roughly redouble the predicted LCOE. *The World Bank Group should carefully consider the risk of imposing such a large increase in the cost of electricity on the Kosovar economy before participating in such an effort*.") (emphasis added).
[195] OP 10.04.
[196] SESA, *supra* note 20, at 4.1.2.4.

lifetime of the plant, particularly because of this context. However, the Bank's analysis did not contain any consideration of the EU's regulatory trend and its potential development risk.

D. Compliance with Rights Protected by the Kosovo Constitution

Bank policies require that financed projects do not contravene country obligations as found in "national legislation[] . . . related to the environment and social aspects[] , , , and obligations . . . under relevant international environmental treaties and agreements."[197] Similarly, the Bank "tries to work within existing law to the extent possible."[198]

Kosovo's Constitution incorporates the following agreements and instruments directly into their constitution: (1) Universal Declaration of Human Rights; (2) European Convention for the Protection of Human Rights and Fundamental Freedoms and its Protocols; (3) International Covenant on Civil and Political Rights and its Protocols; (4) Council of Europe Framework Convention for the Protection of National Minorities; (5) Convention on the Elimination of All Forms of Racial Discrimination; (6) Convention on the Elimination of All Forms of Discrimination Against Women; (7) Convention on the Rights of the Child; (8) Convention against Torture and Other Cruel, Inhumane or Degrading Treatment or Punishment.[199] Article 22 of the Constitution guarantees the human right and freedoms protected by these instruments. Further, Article 3(2) of the Constitution accords "full respect for internationally recognized fundamental human rights and freedoms."[200] Additionally, Article 53 of the Constitution states that Kosovar interpretation of those "human rights and fundamental freedoms" shall be consistent with the jurisprudence of the European Court of Human Rights.[201]

The human rights guaranteed pursuant to those provisions are incorporated directly into Kosovo's national laws via the Constitution. Thus, the Bank must evaluate whether the project complies with Kosovar law and what effect this project will have on relevant human rights. In accordance with the Panel's decision in the *Honduras Land Administration* claim, the Panel the Bank must also assess the impacts of the domestic legal framework on the protections afforded to affected peoples the Bank's policies.[202] There are a number of areas where rights are implicated. The Bank's SESA currently under consideration makes no mention, nor provides even a framework for assessing the impact on the following rights.

1. Impacts on the Labor Union

In addition to the concerns related to local employment and safe working conditions raised in Section V.A, there are significant concerns about the privatization of Kosovo B and Kosovo C. In the past, the state-owned company in charge of mining and plant operations, KEK, has been

---

[197] OP 4.01(3).
[198] World Bank Operational Policy 7.00, *Lending Operations,* 7.00(14).
[199] Kosovo Constitution, art. 22, *available at* http://www.kushtetutakosoves.info/repository/docs/Constitution.of.the.Republic.of.Kosovo.pdf .
[200] *Id.* art. 3(2).
[201] *Id.* art. 53.
[202] *See* World Bank Inspection Panel, *Investigation Report: Honduras: Land Administration Project (IDA Credit 3858-HO)* (2007).

managed by private entities, and there is a history of problems associated with collective bargaining and freedom of association. More generally, Requesters are concerned because instances of privatization in other sectors within Kosovo show that at times existing unions have faced significant discrimination. Against the backdrop of these problems, both generally and specific to the energy sector, the Bank must ensure that project activities would respect the following rights:

The right to collective bargaining and freedom of association: Kosovo's Constitution directly recognizes the right to freedom to establish trade unions.[203] The European Convention on Human Rights also protects freedom of association, and is thus guaranteed by the Constitution.[204] The right to collective bargaining is necessary to enjoy this right. Through the Universal Declaration on Human Rights (UDHR), the Constitution also recognizes the right of peaceful assembly and association[205] and the right to form and to join trade unions for the protection of worker interests,[206] the right to freedom of association with others.[207] Freedom of association has been recognized by the EU in multiple cases.[208]

The right to health: (including safe working conditions) Through the UN Declaration on Human Rights (UDHR), Kosovo's Constitution recognizes the right to "just and favourable conditions of work and to protection against unemployment"[209] and "the right to a standard of living adequate for the health and well-being of himself and of his family, including … the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control."[210] European jurisprudence, especially through the Council of Europe's Social Charter,[211] has recognized the right to health with respect to working conditions.[212] Although Kosovo is not a member of the European Union, as noted above, it does have aspirations to accede. Given the long-term nature of the proposed project and Kosovo's aspirations to accede, the Bank should consider this project in the context of potential accession to the EU; the Bank's due diligence should include legal requirements that will apply during the lifetime of the project.[213]

---

[203] *Id.* art. 44.
[204] Convention for the Protection of Human Rights and Fundamental Freedoms, art. X, Nov. 4, 1950, Europ.T.S. No. 5; 213 U.N.T.S. 221 [hereinafter ECHR].
[205] United Nations, Universal Declaration of Human Rights UDHR, art. 20(1), *available at* http://www.un.org/en/documents/udhr / [hereinafter UDHR].
[206] *Id.* at Art. 23(4); ECHR, *supra* note 204, at art. 11(1); Kosovo Constitution, *supra* note x, art. 44.
[207] UDHR, *supra* note 205, at art. 17(1).
[208] *See* Case C-499/04, Hans Werhof v. Freeway Traffic Systems GmbH & Co., KG (Mar. 9, 2006).
[209] UDHR, *supra* note 205, art. 23(1).
[210] *Id.* art. 25(1).
[211] European Social Charter, Part I ¶3, *available at* http://www.coe.int/t/dghl/monitoring/socialcharter/Presentation/AboutCharter_en.asp#. The Social Charter requires the elimination of occupational hazards so as to ensure that health and safety at work are provided for by law and guaranteed in practice.
[212] *See* Case C-256/10, C-261/10, Barcenilla Frenandez and Macedo Lozano v. Gerardo Garci SL (May 19, 2011).
[213] It follows that the Bank could look to the Social Charter for context.

2. General Impacts from Proposed Activities

The Bank must demonstrate how project activities would respect the following relevant rights within the context of the broader environmental and social impacts of the project, such as pollution and changes to land use patterns:

The right to health: As discussed above, the Kosovar Constitution guarantees the right to health. The proposed project will have numerous negative, long-term impacts on the health of the population in the affected region. The Bank must assess these impacts in the context of the right to a health.

The right to food: The UDHR recognizes the right to food, and thus guaranteed by the Constitution.[214] The project will have impacts on land-use patterns in the project area as well as serious broader impacts on access to water for irrigation for agricultural uses. Moreover, pollutants emitted from the power plants and mines can contaminate local produce and livestock. The Bank must assess the impacts of the project on the right to food.

The right to water: The right to water is necessary for the enjoyment of the right to food.[215] The right to water can be interpreted through the lens of work done in other bodies and could be considered by the Bank. This right should further be viewed in the context of the 2010 United Nations General Assembly resolution recognizing the right to water and sanitation.[216] The project is likely to have severe impacts on local water supplies and the Bank should assess these impacts in the context of the right to water.

The right to housing: Kosovo recognizes "the right to a standard of living adequate for the health and well-being of himself and of his family, including … housing."[217] Particularly, in the context of resettlement related to the project, the Bank must assess the impacts on this right. Furthermore, the Bank must assess whether the implementation of the resettlement schemes, and the application of the "special economic interest" designations are sufficiently protective of the claimant's rights under the Kosovo Constitution and their interests under Bank policies.

E. OMS 2.20 – Project Appraisal

OMS 2.20 details the major aspects and associated procedures of the Bank's project appraisal process. Generally, appraisal involves examining six aspects of a project: "(a) economic, e.g., project costs and the size and distribution of benefits; (b) technical, e.g., engineering design and environmental matters; (c) institutional, e.g., management and organization; (d) financial, e.g., requirements for funds and the financial situation of the implementing agency and of other beneficiaries affected by the project; (e) commercial, e.g., procurement and marketing

[214] UDHR, *supra* note 205, art. 25(1).
[215] Economic and Social Council, General Comment no. 15, *The Right to Water,* ¶¶ 2,3 (2002) http://www2.ohchr.org/english/issues/water/docs/cescr_gc_15.pdf.
[216] United Nations General Assembly Resolution, *The Human Right to Water,* A/Res/64/292 (Aug. 3, 2010) *available at* http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N09/479/35/PDF/N0947935.pdf?OpenElement.
[217] *Id.*

arrangements; and (f) sociological aspects, e.g., socio-cultural factors and impact on specific target groups such as women."[218] For reasons already detailed above, the Bank has failed to adequately appraise the proposed project, particularly with respect to quantifying economic costs, incorporating environmental and social impacts, and considering the implications of privatizing power generation.

Additionally, OMS 2.20 requires the Bank to ensure that the projects it supports are consistent with international obligations of the host country regarding the environment, health and public welfare. OMS 2.20 provides that:

> [A] project's possible effects on the country's environment and on the health and well-being of its people must be considered at an early stage… Should international agreements exist that are applicable to the project and area…the Bank should be satisfied that the project plan is consistent with the terms of the agreements.

The Inspection Panel has previously concluded that the Bank has specific, auditable due diligence requirements under this provision of OMS 2.20. In its inspection report on the *Honduras: Land Administration Project*, the Inspection Panel concluded that OMS 2.20 creates an independent obligation for the Bank to consider whether the proposed Project plan and its implementation would be consistent with the host country's obligations under its relevant international agreements.[219]

In the instant case, the World Bank has not done the due diligence required under OMS 2.20 to ensure that the project's plan and implementation would be consistent with Kosovo's obligations under the *Energy Community Treaty*.[220] The *Energy Community Treaty* is an agreement between the European Community, Kosovo, and eight other Contracting Parties in South East Europe to establish an integrated market in natural gas and electricity based on common standards and norms. Towards this end, the *Energy Community Treaty* requires Kosovo to implement the European *acquis communautaire* on energy, environment, competition and renewables, among other standards.[221]

In particular, the Bank has not properly considered whether the project:

- Is being implemented in a manner consistent with the public consultation requirements of Directives 85/337/EEC, 97/11/EC, and 2003/35/EC referenced in Article 16. See, sections V(A)(3), V(B)(4);
- Complies with the requirements of Directive 2001/80/EC as amended on the limitation of emissions of certain pollutants into the air from large combustion plants, and Directive 96/61/EC on Integrated Pollution Prevention and Control (IPPC) which is closely associated with Directive 2001/80/EC.

[218] World Bank Operational Manual Statement, *Project Appraisal,* OMS 2.20(9).
[219] Honduras: Land Administration Project, *supra* note 202, at ¶258.
[220] http://www.energy-community.org/portal/page/portal/ENC_HOME/ENERGY_COMMUNITY/Legal/Treaty
[221] *Energy Community Treaty*, Title II.

VI. CONSISTENCY WITH THE BANK'S STRATEGIC FRAMEWORK ON DEVELOPMENT AND CLIMATE CHANGE

The Bank's Strategic Framework on Development and Climate Change (SFDCC) specifically sets out criteria under which the Bank should assess investments in coal projects, such as the KPP.[222] The SFDCCC Expert Panel's report for the KPP found that the proposed activities are consistent with these criteria,[223] however there is inadequate consideration of numerous issues and thus, the report does not appropriately assess the project against the guidance.[224]

In the first instance, the terms of reference for the Expert Panel were insufficient to provide for a full analysis of relevant factors. For example, the terms of reference did not adequately explore viable alternatives; failed to consider Kosovo's need for a mix of base load, load following, and peaking capacity; and underestimated published estimates of electricity prices.[225] The ultimate report still does not adequately address these issues, and, in addition, does not adequately address environmental and health externalities.

The Bank's failure to adequately demonstrate development impacts, such as improving energy access for the poor or energy security, is inconsistent with Criterion I's requirement to demonstrate development impacts.[226] While the Expert Panel concludes that a new plant will address the supply/demand gap, energy access also encompasses issues of price, income, and affordability for vulnerable groups.[227] Additionally, the Bank significantly underestimates electricity rates, as well as the impact of privatization leading to a de facto monopoly on power generation.[228] Thus, it is not clear what the actual development benefits will be.

The failure to adequately consider energy efficiency measures and renewable energy alternatives is inconsistent with SFDCC Criteria II, III, and IV. Criterion II requires that "assistance is being provided to develop low carbon projects,"[229] and Criterion IV requires full consideration of viable alternatives to the least cost (including environmental externalities) options."[230] Without fully examining the role of alternatives in the context of Kosovo's need for a mix of base load and peaking capacity, the project cannot meet the requirements of either criterion. Additionally, the inadequate consideration of energy efficiency solutions is inconsistent with the Criterion III requirement that "energy sources are optimized, looking at the possibility of meeting the country's needs through energy efficiency (both supply and demand) and conservation." In Kosovo, energy generation is not optimized due to substantial unresolved technical and commercial losses. In 2007, only 53% of the gross energy consumption was billed; and from

[222] World Bank Group, *Criteria for Screening Coal Projects Under the Strategic Framework for Development and Climate Change* (2011) [SFDCC].
[223] SFDCC Expert Panel Report, *supra* note 6.
[224] *See* Issues of SFDCC Non-Compliance, *supra* note 16.
[225] *See* Kosovo's Least Cost Option, *supra* note 23, at 4-5; Affordable Electricity, *supra* note 16.
[226] SFDCC, *supra* note 222, Criterion I.
[227] Issues of SFDCC Non-Compliance, *supra* note 16, at 3.
[228] *Id.*
[229] SFDCC, *supra* note 222, Criterion II.
[230] "After full consideration of viable alternatives to the least-cost (including environmental externalities) options and when the additional financing from donors for their incremental cost is not available." *Id.* Criterion IV.

this billed energy, only 76% was successfully collected.[231] In 2007, these commercial losses amounted to 1,333 GWh, equivalent to the sum of the entire production of Kosovo A, all production from the hydro power plants and part of Kosovo B production.[232] It appears that the Bank is counting on privatization of the grid to remedy these losses. Instead, the Requesters urge the Bank to stem these losses before deciding to invest in building new generating capacity.

With respect to externalities, although the report states that the KPP is still the least cost option even after accounting for environmental externalities, the analysis is inadequate. First, as far as Requesters can ascertain, the externalities only extend to air pollution. Second, the modeling for externalities may not reflect the most current standards. Based on the 2011 World Bank Background Paper for the project, it appears that the externality costs were calculated in 2006; these calculations should be updated to reflect current modeling standards, at the very least consistent with European standards.[233] Furthermore, without specifying pollution controls and expected emission levels, it is impossible to adequately assess externalities. This failure to properly account for externalities coupled with concerns about monitoring pollution (described above) is not only inconsistent with Criterion IV, it is also inconsistent with Criterion VI, which requires "an approach to incorporate environmental externalities in project analysis."[234] For these reasons, the Expert Panel report does not contain an accurate assessment of the project against the SFDCC guidance.

VII. CONCLUSION

For the reasons described above, Requesters will suffer numerous harms from the KPP due to violations of Bank policies and procedures, including: OP 4.01, OP 4.12, OP 10.04, OMS 2.20, and the SFDCC.

[231] Energy Law Strategy for Kosovo, *supra* note 183, at 23-24.
[232] *Id.*
[233] As noted above, 2009 figures from Europe indicate that environmental and health costs of pollution are significant. EEA Report, *supra* note x.
[234] SFDCC, *supra* note 222, Criterion VI.

VIII. APPENDIX 1: CONTACT WITH THE WORLD BANK

The communications referred to in Section II.C are attached. They are:

1. Letter to the World Bank from community representatives raising concerns about the KPP (March 6, 2012).
2. Letter from Kosovo civil society organizations to World Bank President (November 8, 2011).
3. Email from Mr. Sinani to Scott Sinclair requesting information about LPTAP financing, SFDCC Expert Panel TORs, and a hydrological study of the Ibar Lake (May 31, 2011).
4. Email from Mr. Sinani to several Bank officers requesting information about studies on alternative energy sources (June 6, 2011).
5. Email and attachment from Mr. Sinani raising concerns about the SFDCC Export Panel Terms of Reference (August 25, 2011).
6. Chain of emails from Mr. Sinani to Jane Armitage and Mohinder Gulati requesting that documents (particularly studies) available to the SFDCC Expert Panel be made public (September 2011).
7. "Energy Projects in Kosovo" publication sent to several Bank staff (October 2011).
8. Email from Mr. Sinani raising concerns about air quality monitoring in Kosovo (February 23, 2012).
9. Email confirming the in-person meeting with Jane Armitage about the KPP.

IX. APPENDIX 2: TECHNICAL REPORTS AND ADDITIONAL DOCUMENTS

The following technical reports and documents, in support of the above analysis, are attached:

1. Daniel M. Kammen, M. Mozafari and D. Prull, Sustainable Energy Options for Kosovo: An Analysis of Resource Availability and Cost (Jan. 15, 2012)
2. Bruce C. Buckheit & Sierra Club, Affordable Electricity for Kosovo?: A Review of World Bank Group Cost Estimates For New Lignite-fired Plants in Kosovo (Oct. 2011)
3. Bruce C. Buckheit & Sierra Club, Reevaluating Kosovo's Least Cost Electricity Option, (Jan. 2012)
4. Steve Herz, Sierra Club, Issues of Non-Compliance with World Bank's Criteria for Screening Coal Projects Under the Strategic Framework for Development and Climate Change (Mar. 6, 2012)
5. Department for Industrial Safety and Fire Protection (within KEK), Statistics on costs for work related accidents
6. Department for Industrial Safety and Fire Protection (within KEK), Statistics on work-related deaths
7. Letter from Ministry of Environment and Spatial Planning (MESP) Working Group to Kosovo Assembly regarding dangers to villages, including Dardhishte (April 25, 2008), and Internal Memo of the Ministry of Energy and Mines (to the Minister) on dangers to Dardhishte (March 25, 2008).
8. Letter from Independent Commission for Mines and Minerals to KEK, asking KEK to undertake measures to protect Dardhishte from mining impacts (April 16, 2008)

9. Letter from Obiliq Municipality to representative of Dardhiste stating that the MESP is investigating dangers to Dardhishte and that the village should receive free drinking water from KEK (May 8, 2008).
10. MESP document stating that Dardhishte should be relocated (April 16, 2008).
11. Decision by MESP to form an Inspection Group to investigate problems in Dardhishte (June 11, 2008).
12. Report by Inspection Group formed by MESP, recommending relocation of Dardhishte (August 2008).

From: **Besiana Gashi** <besiana.gashi@gmail.com>
Date: Tue, Mar 6, 2012 at 1:06 PM
Subject: Kosovo Community Complaint
To: jarmitage@worldbank.org
Cc: jolters@worldbank.org, tahlers@worldbank.org, nezir.sinani@indep.info, krenar.gashi@indep.info

Dear Ms. Armitage,

Attached to this email you will find a complaint signed by the representatives of the community of Obiliq, which relates to the New Kosovo Power Plant project. It is available in both languages, English and Albanian.

Best regards,

Besiana Gashi

E-mail: besiana.gashi@gmail.com
Cell Phone: +377 44 250 612

March 5, 2012

Ms. Jane Armitage
Country Director and Regional Coordinator for Southeast Europe
World Bank
1818 H Street, NW
Washington, DC 20433
USA

Re: The concerns of the Obiliq community regarding the energy projects

Dear Ms. Armitage:

The undersigned community representatives in the municipality of Obiliq, Kosovo are concerned about World Bank (Bank) involvement in Kosovo's energy sector. The Bank is currently involved in this sector through two projects: the Kosovo Power Project (KPP) (No. P118287) and the Lignite Power Technical Assistance Project (LPTAP) (No. P097635). Both projects, and in particular the new power plant and the new lignite mine contemplated by the KPP, are likely to contribute to significant environmental and social impacts and associated costs, in an area that is already heavily impacted by lignite mining and power generation. At present, these impacts have not been sufficiently addressed by the Bank, and many could be avoided through more environmentally sustainable alternative projects. Community members are particularly concerned that: the KPP, particularly the new mine and plant, will cause substantial environmental degradation and related health harms; the KPP is likely to create the need for resettlement in an area without sufficient arable lands and lead to loss of livelihoods without adequate compensation; the KPP is likely to cause harm to workers and the local economy; and the Bank has failed to ensure adequate transparency and consultation regarding the potential impacts of the project.

Resettlement is a particularly pressing problem in this context. In 2004, the Government of Kosovo declared the villages of Hade, Sibovc, Leshkoshiq and Cerna Vodica as areas of special economic interest, which effectively allowed the Government to initiate relocation of residents as needed. The process of relocating Hade residents by the Government, as well as subsequent World Bank consultations with affected residents, has been inadequate. More than seven years after the decision to relocate Hade residents, the process of relocation is incomplete, residents have not been compensated adequately, and there is little to no information about how residents' concerns will be addressed.

For example, to date, only some of the residents of Hade have been relocated, and those who remain continue to live in homes next to the Kosovo Electric Corporation (KEK) mine site. Of the relocated residents, some were relocated to Shkabaj village in Obiliq, others were moved to two residential complexes in Obiliq: Hade 1 and Hade 2. The Government has failed to adequately compensate displaced inhabitants, or ensure their economic stability and social integration. The citizens who are still in Hade, expecting to be relocated, have no information on how their relocation is going to take place, the location of their future settlement, how they will be compensated, or when this process will begin. These issues are unresolved, even after Bank involvement in the project.

In March 2009, three additional villages, of Fushë Kosova, Vushtrria, and Drenas, were declared an area of special economic interest due to the granting of a "New Mining Zone". The New Mining Zone encompasses an area of 143.254 km^2, affecting 22 land titles. Currently, over 70% of Obiliq municipal territory has been declared an area of special economic interest, paralyzing the municipality's economic and social development, in part, because residents do not know if or when their homes will be condemned to make way for the new mine and power plant.

Another pressing concern is local employment and working conditions. The Government decision to give the management of the existing Kosovo B power plant to the same company that would win the contract for the construction of the new power plant is against the interests of current local employees. The plants are currently managed by KEK, a state-owned enterprise. Employees are concerned that privatization will lead to job cuts, salary reductions, and a situation where legal procedures are neglected. Such a decision only transfers the current monopoly from the public to the private sector. Furthermore, employees who would be made redundant as a result of decommissioning Kosovo A are concerned that a new company will not hire them, and if not, that the government will not provide programs for them to be compensated.

The Kosovo Energy Trade Union (SPEK) is particularly concerned about job loss. Current management is already publishing high figures for job cuts (eliminating at least 1200 jobs), foreseeing the involvement of private companies in Kosovo's energy sector. Lack of funds dedicated to addressing social issues is likely to cause significant social unrest. Some employees are not good candidates for re-training due to their age, nor is it feasible for them to find jobs outside of the professions that they currently have. Thus, there would need to be adequate financial support for such employees who lose their jobs as a result of this new project.

After the Bank became involved in the project in 2006, it held several meetings with the residents of the villages of Obiliq. However, those meetings were not adequate to ensure that the communities were aware of the impacts or that their feedback was incorporated. The consulting companies hired by the Bank to conduct the community meetings, Community Development Fund and Management and Development Associates, have not been able to answer the questions and concerns raised by community members. All the companies have done is to compile the concerns of the citizens. Since the last consultation with communities, held more than 3 years ago, no one has informed the communities how the World Bank and the Kosovo Government will address their concerns or demands.

Some of the requests and concerns raised by the citizens during these consultative meetings are as follows:

- *Where will the new power plant be built?* The citizens still do not have information about the location of the proposed new power plant. The citizens have, until now, heard three versions of the possible construction sites for the new power plant: near Kosova A power plant, near Kosova B power plant, and in Bivolak village. The citizens have expressed their opinion that if a new plant is built, it should be built near Kosova B power plant (this option has been supported by the Municipal Assembly of Obiliq), but they have received no response from the World Bank or the Kosovo Government and do not know whether their request has been taken into account.

- *How will the new power plant affect drinking water for residents?* The citizens have requested that any the project undertaken should not affect their water supply, which is already under stress. Additionally, the project should not further diminish water quality in the area. Residents of these areas already face problems with the dire quality of drinking water coming out of the wells.

- *What is the plan for the relocation of the residents of Hade village and residents of the surrounding villages?* When is the process of relocating Hade residents expected to restart? And when will relocated residents be adequately compensated? The citizens who are waiting for relocation from their properties have opposed the relocation from their current homes to another location in the Obiliq municipality, fearing that they will have to be relocated again because the majority of the municipality area is a designated area of special economic interest. Additionally, a report by Inkos, the laboratory that measures pollution levels in the area, found that some surrounding villages, such as Dhardhishte, have such poor environmental conditions that it is not safe for residents to continue living there. Despite subsequently raising these concerns, there is no response as to whether residents of Dardhishte and other similar villages will be relocated.

- *How will the construction of Kosovo C (new power plant), the decommissioning of Kosova A, and the privatization of Kosovo B and C affect employment?* Will there be more employment or will the current workers also be laid off? Will working conditions for retained employees be improved? Residents have repeatedly requested that those living in the municipality receive priority for jobs in the existing and new power plants. Also, there are requests for special training programs for workers in the area for clean and renewable energy projects.

- *What technology will be used in Kosovo B and C to reduce negative impacts on the environment and health?* The citizens have expressed their continued concern about the lack of filters in the existing power plants and, in those stacks with filters, accounts that the KEK management has turned them off at night. As a result, citizens have asked for an independent supervisory body, which would consist of representatives of the surrounding communities, to monitor the work of the filters in the power plants. To date, there has been no response to these requests.

We are also aware that Mr. Nezir Sinani and Mr. Krenar Gashi from the Institute for Development Policy (INDEP) have communicated numerous concerns about the LPTAP and KPP to the World Bank. INDEP participates in a coalition including the following non-governmental organizations: Dokufest; Forum for Civic Initiatives (FIQ); GAP Institute; Prishtina Institute for Political Studies (PIPS); Institute for Development Policy (INDEP); Internews Kosova; Kosovo 2.0; Youth Initiative for Human Rights (YIHR); Balkan Investigative Reporting Network (BIRN); and Saferworld. We would like to incorporate by reference all concerns raised by Mr. Sinani, Mr. Gashi, and their colleagues in the coalition, including the following: impacts of pollution (air, water, and land) to the environment and human health; impacts on workers, in particular relating rights to collective bargaining and freedom and association, as well as safe working conditions; unsustainable water usage; social impacts on agriculture; social impacts on local employment; concerns about involuntary resettlement; lack of consideration of viable alternatives; inadequate consideration of social and environmental costs in project economics; and the general lack of information disclosure and consultation.

As demonstrated above, both the Kosovo Government and the World Bank have failed to conduct adequate and transparent consultation processes from 2004 onwards. The proposed project has already resulted in significant harms to residents. Thus, the residents of the villages affected by the proposed project, listed below, require immediate attention from World Bank personnel regarding the concerns raised above.

Sincerely,

Burim Gërguri, Community Representative for Dardhishte, ID 1014702144

Nexhat Shabani, Community Representative for Obiliq, ID 1005913019

Shaip Paloja, Community Representative for Cerna Vodica, ID 1013621981

Agim Preniqi, Parliamentary Representative for Hade, ID 1005912217

Eshref Pllana, Community Representative of Lajthishte/Sibofc, ID 1014706018

Besianë Gashi, Community Representative of Obiliq, ID 117246332

Izet Mustafa, Head of the Kosovo Energy Trade Union (SPEK), ID 1005373120

Cc:
Mr. Jan-Peter Olters
Country Director to Republic of Kosovo

Mr. Ted Ahlers
Operations Director for Europe and Central Asia

05 mars 2012

Znj. Jane Armitage
Drejtoreshë vendi dhe koordinatore rajonale për Evropën jug-lindore
Banka Botërore
1818 H Street, NW
Washington, DC 20433
SHBA

Për: Shqetësimet e komunitetit të Obiliqit lidhur me projektet energjetike

E nderuara znj. Armitage,

Përfaqësuesit e komunitetit në Komunën e Obiliqit, nënshkrues të kësaj ankese janë të shqetësuar në lidhje me përfshirjen e Bankës Botërore (Banka) në sektorin energjetik të Kosovës. Përfshirja e Bankës në këtë sektor po bëhet nëpërmjet dy projekteve: Projekti për energji I Kosovës (KPP) me Nr. P118287 dhe Projektit të Asistencës Teknike për Energji nga Linjiti (PATEL) me Nr. P097635. Të dy projektet, e në veçanti termocentrali i ri dhe miniera e re e linjitit të parashikuara nga KPP, ka të ngjarë se do të kenë ndikime të mëdha mjedisore dhe shoqërore si dhe shpenzime ndërlidhëse në një zonë e cila tashmë është prekur rëndë nga minierat e linjitit dhe gjenerimi i energjisë elektrike. Gjer më tani, këto ndikime nuk janë adresuar nga Banka ashtu si duhet, ndikime këto të cilat mund të shmangen nëpërmjet projekteve ekologjike të qëndrueshme alternative. Pjesëtarët e komunitetit janë të shqetësuar ngase: KPP, veçanërisht miniera dhe termocentrali i ri, do të shkaktojnë degradim të konsiderueshëm të mjedisit dhe dëmtime ne shëndetin e banorëve; KPP ka të ngjarë se do të krijojë nevojën për rivendosjen në një zonë ku tokat nuk janë mjaftueshëm pjellore gjë e cila do të shkaktonte humbjen e jetesës pa kompensim adekuat; KPP ka të ngjarë se do të u shkaktojë dëm punëtorëve dhe ekonomisë vendase; dhe se Banka ka dështuar në sigurimin e transparencës së duhur dhe konsultimeve në lidhje me ndikimet e mundshme të projektit.

Në këtë kontekst, zhvendosja është problem i një rëndësie të veçantë. Në vitin 2004, Qeveria e Kosovës shpalli fshatrat Hade, Sibovc, Leshkoshiq dhe Cerna Vodicë, zona të interesit të veçantë ekonomik me një vendim i cili efektivisht lejon Qeverinë që të fillojë zhvendosjen e banorëve. Procesi i zhvendosjes së banorëve të Hades nga Qeveria si dhe konsultimet pasuese me banorët e prekur nga Banka Botërore ka qenë i pamjaftueshëm. Edhe pas shtatë viteve të vendimit për zhvendosje të banorëve të Hades, procesi i zhvendosjes mbetet i pakompletuar, banorët nuk janë kompensuar në mënyrë adekuate, dhe se ka pak ose aspak informacion rreth asaj se si shqetësimet e banorëve do të adresohen.

Për shembull, tani vetëm një pjesë e banorëve të fshatit Hade janë zhvendosur, gjersa gjysma e banorëve të Hades edhe më tutje vazhdojnë jetën në shtëpitë e tyre afër eskavatorëve të KEK-ut. Një pjesë e Hades janë zhvendosur në fshatin Shkabaj të Obiliqit, gjersa për një pjesë tjetër të banorëve janë ndërtuar dy komplekse banesore në Obiliq: Hade 1 dhe Hade 2. Qeveria ka dështuar së kompensuari drejtë banorët e zhvendosur, apo të iu sigurojë një qëndrueshmëri ekonomike dhe integrim social. Banorët të cilët ende ndodhen në Hade dhe presin zhvendosjen nga ky fshat, nuk kanë asnjë informacion se si do të bëhet zhvendosja e tyre, cili do të jetë vendbanimi i ardhshëm, si do të kompensohen apo kur do filloj ky process. Këto çështje janë të pazgjidhura, edhe pas përfshirjen e Bankës në projekt.

Në vitin 2009, zona e interesit të veçantë ekonomik është zgjeruar edhe me tri fshatra tjerë të Fushë Kosovës, Vushtrrisë dhe Drenasit për shkak të dhënies së "Fushës së Mihjes së Re". Fusha e Mihjes së Re përfshin një hapësirë prej 143,254 km^2 dhe shtrihet në 22 zona kadastrale. Mbi 70% e territorit të komunës së Obiliqit është shpallur zonë e interesit të veçantë ekonomik dhe kjo paralizon komunën në aspektin e zhvillimit ekonomik dhe social, ngase banorët nuk janë të sigurt në planifikim afatgjatë apo për të ndërtuar, ngase nuk janë të informuar se në çfarë afati kohor vendbanimi i tyre mund të shndërrohet në vendmihje për termoelektranat.

Shqetësim thelbësorë tjetër janë punësimi lokal si dhe kushtet e punës. Vendimi i Qeverisë që ta japë në menaxhim termocentralin ekzistues Kosova B, kompanisë së njejtë e cila do të fitojë kontratën për ndërtimin e termocentralit të ri është kundër interesave të punonjësve të tanishëm lokal. Termocentralet aktualisht menaxhohen nga ndermarrja publike KEK. Punonjësit frikësohen se privatizimi do të çojë në shkurtim të vendeve të punës, ulje të pagave si dhe krijimin e një situate ku procedurat ligjore neglizhohen. Një vendim i tillë vetëm transferon monopolin aktual nga sektori publik në atë privat. Për më tepër, punëtorët të cilët do të mbeteshin pa vende pune, si pasojë e dekomisionimit të Kosovës A, janë të shqetësuar se kompania e re nuk do i punësojë ata, po që se një gjë e tillë do të ndodhë, Qeveria nuk do të ofrojë mundësi që ata të kompenzohen.

Sindikata e Pavarur e Energjetikes së Kosovës (SPEK) është veçanërisht e preokupuar me shkurtimin e vendeve të punës. Menaxhmenti aktual tashmë ka publikuar shifra të larta për shkurtime të vendeve të punës (eliminimi i së paku 1200 vendeve të punes), duke parashikuar përfshirjen e kompanive private në sektorin energjetik të Kosovës. Mungesa e fondeve të dedikuara për të adresuar çështjet sociale ka të ngjarë të shkaktojë trazira të konsiderueshme sociale. Disa punonjës nuk janë kandidatë të mirë për t'u ri-trajnuar duke pasur parasyshë moshën e tyre, e po ashtu nuk është i mundshëm që ata të gjejnë punë jashtë profesioneve që aktualisht kanë. Si rrjedhojë, është e nevojshme që këta punëtorë të cilët do të humbin vendet e punës për shkak të projektit të ri të kenë mbështetje të mjaftueshme financiare.

Pasi Banka u përfshi në projekt në vitin 2006, ka realizuar disa takime me banorët e fshatrave të Obiliqit. Megjithatë ato takime nuk ishin të mjaftueshme për t'u siguruar se komuniteti janë të vetëdijshëm për ndikimet apo që brengat e tyre do të merreshin parasysh. Kompanitë konsulente të kontraktuara nga Banka për të mbajtur takime të komunitetit, Fondi për Zhvillim Komunitar dhe Management and Development Associates nuk kanë qenë në gjendje t'i përgjigjen pyetjeve dhe shqetësimeve të ngritura nga anëtarët e komunitetit. E tëra qfarë kompanitë kanë bërë është që të mbledhin shqetësimet e qytetarëve. Që nga konsultimet e fundit me komuntet, të mbajtura më shumë se 3 vite më parë, askush nuk i ka informuar ata se si Banka Botërore dhe Qeveria e Kosovës do i adresojnë shqetësimet dhe kërkesat e tyre.

Disa nga kërkesat dhe shetësimet e ngritura nga qytetarët gjatë këtyre takimeve konsultative janë:

- *Ku do të ndërtohet termocentrali i ri?* Edhe më tutje banorët nuk kanë informata se ku do të jetë vendndodhja e termocentralit të ri. Qytetarët deri më tani kanë dëgjuar tri versione të vend-ndërtimit të mundshëm të termocentralit të ri: afër termocentralit Kosova A, në afërsi të termocentralit Kosova B dhe në fshatin Bivolak. Qytetarët kanë shpreh mendimin e tyre se termocentrali i ri do të duhej të ndërtohej në afërsi të Kosova B (ky opsion është mbështetur edhe nga Kuvendi Komunal i Obiliqit), mirëpo

nuk kanë marrë asnjë përgjigje nga BB dhe Qeveria e Kosovës dhe nuk e dinë nëse kërkesat e tyre janë marrë për bazë.

- *Si do të afektoj termocentrali i ri ujin e pijshëm për banorët?* Banorët kanë kërkuar që çfarëdo projekti nuk duhet të dëmtoj furnizimin me ujë, edhe ashtu të paktë. Një problem tjetër me të cilin përballen banorët e këtyre zonave është edhe cilësia jo e mirë e ujit të pijes i cili nxirret nga puset.

- *Cili është plani për zhvendosjen e banorëve të fshatit Hade dhe banorëve të fshatrave për rreth?* Kur pritet të rifillojë procesi i zhvendosjes në fshatin Hade? Dhe kur do të kompensohen në mënyrë adekuate banorët e zhvendosur. Banorët të cilët presin zhvendosjen nga pronat e tyre kanë kundërshtuar zhvendosjen nga vendbanimi aktual në ndonjë vendbanim tjetër në komunën e Obiliqit ngase kanë frikë se prapë do ju duhet të zhvendosen, për shkak të përfshirjes së pjesës më të madhe të territorit të Komunës në zonë të interesit të veçantë ekonomik. Përveç kësaj, një raport nga INKOS, laboratori që mat nivelin e ndotjes në këtë zonë, gjeti se në disa fshatra përreth, si Dardhishte, kanë kushte mjedisore aq të varfra sa që nuk ka kushte bazike mjedisore për banorët të vazhdojnë të jetojnë aty. Pavarësisht ngritjes së këtyre shqetësimeve në mënyrë të vazhdueshme, nuk ka asnjë përgjigje në lidhje me zhvendosjen e banorëve të fshatit Dardhishte dhe fshatrave të tjera të ngjashme.

- *Si do të afektoj në punësim ndërtimi i termocentralit Kosova C (termocentrali i ri) dhe mbyllja e termocentralit Kosova A, dhe privatizimi i Kosovës B dhe C?* Do të ketë më shumë punësim apo do të largohen nga puna edhe punëtorët aktual? A do të përmirësohen kushtet e punës për punëtorët që do të mbesin? Kërkesat e banorëve në vazhdimësi kanë qenë që banorët e kësaj komune të kenë përparësi në punësim në termocentralet ekzistuese, termocentralin e ri dhe në mihje. Po ashtu, kërkohen programe te veçanta trajnimi për punonjës për afarizëm në fushën e projekteve të energjisë së pastër dhe ripërtërishme.

- *Çfarë teknologjie për zvogëlimin e ndikimit negativ në ambient dhe shëndet do të përdoret në termocentralin Kosova B dhe C?* Banorët kanë shprehur shqetësimet e vazhdueshme për mungesën e filtrave në termocentralet ekzistuese, kurse në rastet kur kanë ekzistuar këto filtra, gjatë natës është ndalur puna e tyre. Andaj, qytetarët kanë kërkuar që të krijohet një grup i pavarur mbikëqyrës, i përbërë nga përfaqësues të komuniteteve të banorëve të zonës, për të monitoruar punën e filtrave në termocentrale. Deri më sot, nuk ka pasur përgjigje në këto kërkesa.

Ne gjithashtu jemi të vetëdijshëm që zotëri Nezir Sinani dhe zotëri Krenar Gashi nga Instituti për Politika Zhvillimore (INDEP) kanë komunikuar shqetësime të shumta në lidhje me PATEL dhe KPP drejtë Bankës Botërore. INDEP bën pjesë në një koalicion që përfshinë organizatat joqeveritare të mëposhtme: Dokufest; Forumi për Iniciativa Qytetare (FIQ); Instituti GAP; Instituti i Prishtinës për Studime Politike (PIPS); Instituti për Politika Zhvillimore (INDEP); Internews Kosova; Kosovo 2.0; Iniciativa Rinore për të Drejtat e Njeriut (YIHR); Rrjeti Ballkanik i Gazetarisë Hulumtuese (BIRN); dhe Saferworld. Ne do të donim t'i inkorporojmë me referencë të gjitha shqetësimet e ngritura nga Z. Sinani, Z. Gashi dhe kolegët e tyre të koalicionit, duke përfshirë këto në vazhdim: ndikimet e ndotjes (ajri, uji, dhe toka) në ambient dhe shëndetin e njeriut; ndikimet në punëtorët, në veçanti në lidhje me të drejtat e marrëveshjes kolektive dhe të drejtën e asocimit, si dhe kushtet e sigurta të punës; përdorimi jo i qëndrueshëm i ujit; ndikimet sociale në bujqësi, ndikimet sociale në punësim

lokal; shqetësimet rreth zhvendosjes dhe rivendosjes së pavullnetshme; mungesa e konsiderimit të alternativave të mundshme; mungesa e konsiderimit të kostove shoqërore dhe mjedisore në ekonomitë e projektit; si dhe mungesa e përgjithshme e dhënies së informacioneve dhe konsultimit.

Siç tregohet më lartë, si Qeveria e Kosovës ashtu edhe Banka Botërore kanë dështuar në administrimin e proceseve konsultative adekuate dhe transparente prej 2004 e tutje. Projekti i propozuar tashmë ka shkaktuar dëme të rëndësishme për banorët. Kështu, banorët e fshatrave të prekura nga projekti i propozuar, të listuar më poshtë, kërkojnë vëmendje të menjëhershme nga personeli i Bankës Botërore në lidhje me shqetësimet e ngritura më sipër.

Sinqerisht,

Burim Gërguri, Përfaqësues i Komunitetit për Dardhishte, ID 1014702144

Nexhat Shabani, Përfaqësues i Komunitetit për Obiliqin, ID 1005913019

Shaip Paloja, Përfaqësues i Komunitetit për Cerna Vodica, ID 1013621981

Agim Preniqi, Përfaqësues Parlamentar për Hade, ID 1005912217

Eshref Fllana, Përfaqësues i Komunitetit për Lajthishtë/Sibofc, ID 1014706018

Besianë Gashi, Banore e Obiliqit, ID 117246332

Izet Mustafa, Kryetar i Sindikatës të Pavarur të Energjetikës të Kosovës (SPEK), ID 1005373120

Cc:
Z. Jan-Peter Olters
Drejtor i Bankës Botërore në Republikën e Kosovës

Z. Ted Ahlers
Drejtor i operimeve për Evropë dhe Azinë qëndrore

Kosovar Institute for Policy Research and Development (KIPRED), Institute for Advanced Studies (GAP), Balkan Investigative Reporting Network (BIRN), Forum for Civic Initiative (FCI) Youth Initiative for Human Rights (YIHR), Internews Kosova, DokuFest, Kosovo 2.0, Prishtina Institute for Political Studies (PIPS), International Crisis Group (ICG)

TO: Mr. Robert Zoellick (President of the World Bank)

CC: Inger Anderson (VP SDN), and the Board Members of the World Bank

Pristina, November 8, 2010

Dear Mr Zoellick,

Respected Board Members of the World Bank,

We are writing to express our concerns regarding vital major decisions on the energy sector in Kosovo.

The review of the energy sector was initiated while Kosovo was under the UN administration, and was continued by Kosovo authorities following the February 17, 2008 declaration of independence. However, throughout the entire process was critically lacking in transparency.

This lack of transparency was particularly acute in the process of the privatization of state owned and publicly owned enterprises, which in turn contributed to the institutional crisis in Kosovo, resulting in the collapse of the governing coalition this week. Consequently, Kosovo has no elected representatives that would have the support and the legitimacy to draft major policies and undertake crucial decisions.

We are very concerned that despite this, the Kosovo authorities will continue to make hasty and unaccountable decisions on the future of country's energy sector. Ownership and administration of the energy is linked to Kosovo's greatest natural resource – lignite coal – and the country's very future. Furthermore, it is directly linked to Kosovo's prosperity and its path towards the European Union. For this reason, a careful public review of all available options, with full environmental and social impact assessments, is absolutely essential.

We believe that any fast action by authorities with highly questionable legitimacy in a volatile political situation will hamper adequate consideration of alternative sources of energy, environmental impacts and the long-term plans and advisability of coal exploitation and use for energy generation.

Kosovo needs a development approach to the energy sector in accordance with the highest European Union standards, especially when it comes to sources of renewable energy. Thus we respectfully call for your support in ensuring fully transparent, accountable, and socially and environmentally sound procedures to evaluate Kosovo's energy pathways, carried out under the direction of legitimate authorities.

We are fully aware of the deep reorganization that the Kosovo energy sector must go through, with some parts functioning better under private ownership and some under public administration. However, we remain worried that in this political stalemate, any decisions would harm this poor economy even further. Kosovo needs legitimate authorities that would be able to make the best decisions for its people. We call upon you not to engage in any contractual agreements with the Kosovo Government, until the legitimate institutions are formed following the upcoming elections scheduled to take place on December 12, 2010.

We appreciate your attention to our concerns and we thank you in advance for your support.

Sincerely yours,

Representatives of the undersigned Kosovo civil society organisations:

Kosovar Institute for Policy Research and Development (KIPRED),

Institute for Advanced Studies (GAP),

Balkan Investigative Reporting Network (BIRN),

Forum for Civic Initiative (FCI),

Youth Initiative for Human Rights (YIHR),

Internews Kosova,

DokuFest,

Kosovo 2.0,

Prishtina Institute for Political Studies (PIPS),

International Crisis Group (ICG)

From: **Nezir Sinani** <nezir.sinani@kipred.net>
Date: Tue, May 31, 2011 at 1:41 PM
Subject: World Bank & Kosovo!
To: ssinclair@worldbank.org
Cc: Mgulati@worldbank.org, iandersen1@worldbank.org, Chad Dobson <cdobson@bicusa.org>, Aynabat Yaylymova <ayaylymova@bicusa.org>, dkammen@worldbank.org

Dear Mr. Sinclair,

I hope this e-mail finds you well. As already introduced, the Kosovar Civil Society has established a group that is dealing with developments of the energy field in Kosovo. As such, we are interested in a few things that are related to this field and involve the World Bank. Hopefully you will be able to guide us and/or provide us with the information we are looking for, and which is as follows:

1. As we know, the Technical Assistance Project (which we regard as PATEL) is running out of budget. We have learned that a request for the approval of an additional budget has been put up and that it involves a few new initiatives which relate to studies on alternatives. Could you please provide us with ToR for this request? We would also appreciate an information on the expected time frame related to the approval of this request.

2. As we have also learned, the World Bank is moving ahead with the new coal-based power plant project. For this reason, ToR for the Experts Panel we learned has been compiled. We would appreciate if you could provide the document itself and any other information related to this very important project for Kosovo.

3. We learned that there's an ongoing hydrological study being carried out and which involves the Ibar lake in the northern part of Kosovo. We would be very happy if we could receive ToR for the study that is being done and we are very interested to also see the report produced for the study itself (if and when it gets available).

I thank you in advance for your understanding and support.

Best regards,
Nezir

--

Nezir SINANI

Researcher/Analyst
Kosovar Institute for Policy Research and Development (KIPRED)

Rexhep Mala Str. No.5A
10 000, Prishtina, Kosovo
Tel/Fax: +381 38 227 778
Mobile: +12026740024

http://www.kipred.net

Subject: Re: World Bank & Kosovo!
From: Nezir Sinani <nezir.sinani@kipred.net>
Date: Mon, 6 Jun 2011 11:47:09 -0400
To: ssinclair@worldbank.org
CC: Mgulati@worldbank.org, iandersen1@worldbank.org, Chad Dobson <cdobson@bicusa.org>, Aynabat Yaylymova <ayaylymova@bicusa.org>, dkammen@worldbank.org, Niranjali Amerasinghe <namerasinghe@ciel.org>, plallas@worldbank.org

Dear Mr. Sinclair,

I hope this email finds you well. In addition to the questions sent last week, we need some more information related to the work of the Technical Assistance Project team. We would appreciate if you could inform us if PATEL provided you with regular reports on their work and how the reporting was structured? We do also look forward to receive the report documents itself that PATEL has sent to WB, especially those related to the environmental and social issues and that were produced since 2006.

In addition, we would be very grateful if you could inform us on or/and provide with other studies on energy alternatives and general data (on wind, solar, geo-termal, hydro) for Kosovo that you have been using for the work until now.

I hope you will be able to provide answers on the questions sent last week as well (please see below).

Thank you for your understanding and support.

Regards,
Nezir

Nezir SINANI
Researcher/Analyst
Kosovar Institute for Policy Research and Development (KIPRED)

Rexhep Mala Str. No.5A
10 000, Prishtina, Kosovo
Tel/Fax: +381 38 227 778
Mobile: +12026740024

http://www.kipred.net

Dear Mr. Sinclair,

I hope this e-mail finds you well. As already introduced, the Kosovar Civil Society has established a group that is dealing with developments of the energy field in Kosovo. As such, we are interested in a few things that are related to this field and involve the World Bank. Hopefully you will be able to guide us and/or provide us with the information we are looking for, and which is as follows:

1. As we know, the Technical Assistance Project (which we regard as PATEL) is running out of budget. We have learned that a request for the approval of an additional budget has been put up and that it involves a few new initiatives which relate to studies on alternatives. Could you please provide us with ToR for this request? We would also appreciate an information on the expected time frame related to the approval of this request.

2. As we have also learned, the World Bank is moving ahead with the new coal-based power plant project. For this reason, ToR for the Experts Panel we learned has been compiled. We would appreciate if you could provide the document itself and any other information related to this very important project for Kosovo.

3. We learned that there's an ongoing hydrological study being carried out and which involves the Ibar lake in the northern part of Kosovo. We would be very happy if we could receive ToR for the study that is being done and we are very interested to also see the report produced for the study itself (if and when it gets available).

I thank you in advance for your understanding and support.

Best regards,
Nezir

From: Nezir Sinani [mailto:nezir.sinani@kipred.net]
Sent: Thursday, August 25, 2011 11:36 AM
To: jmbeer@mit.edu; Wladyslaw.Mielczarski@electricmarket.neostrada.pl; derek.taylor@cec.eu.int
Cc: khuber@worldbank.org; iandersen1@worldbank.org; tahlers@worldbank.org
Subject: Kosovo - Expert Panel meeting Kosovar CSO's!

Dear all,

I hope this e-mail finds you well! As I have not had the opportunity to introduce myself before to the members of the Expert Panel for the Kosovo project, my name is Nezir Sinani and I represent a group of ten Kosovar NGO's that follow energy projects in Kosovo. On behalf of my group, I wish you success in your work to screen the Kosovo project with the World Bank!

We have analyzed closely the ToR published for your work and our NGO has come across significant issues in this document. We find the information provided with this document is incomplete and incorrect in many parts of it. For this purpose, I am attaching all our comments and remarks related to the ToR to this e-mail. Our remarks are part of the comments on the side of the ToR document itslef and also underlined in other parts of the text! An overview is provided in the first pages of the document. I am aware that tomorrow you have scheduled a meeting with our NGO coalition in Kosovo. In this meeting they will present to you all our remarks related to the project you are screening. There are many issues that we do believe need to be addressed and that relate to this project and we do look forward to your understanding and support when considering those.

I remain at your disposal for any additional questions you might have after reading our remarks and following your meeting tomorrow with my colleagues in Kosovo.

Thank you in advance for your understanding and support!

Warm regards,
Nezir

--
Nezir SINANI
Researcher/Analyst
Kosovar Institute for Policy Research and Development (KIPRED)

Rexhep Mala Str. No.5A
10 000, Prishtina, Kosovo
Tel/Fax: +381 38 227 778
Mobile: +12026740024

http://www.kipred.net

--
Nezir SINANI
Researcher/Analyst
Kosovar Institute for Policy Research and Development (KIPRED)

Rexhep Mala Str. No.5A
10 000, Prishtina, Kosovo
Tel/Fax: +381 38 227 778
Mobile: +12026740024

Kosovar Institute for Policy Research and Development (KIPRED), Institute for Advanced Studies (GAP), Balkan Investigative Reporting Network (BIRN), Forum for Civic Initiative (FCI) Youth Initiative for Human Rights (YIHR), Internews Kosova, DokuFest, Kosovo 2.0, Prishtina Institute for Political Studies (PIPS), International Crisis Group (ICG)

World Bank Proposed Kosovo Lignite Power Project: Key Revisions to the Terms of Reference for the SFDCC Expert Panel

August 23, 2011

A review of the terms of reference (TOR) for the Strategic Framework on Development and Climate Change (SFDCC) Expert Panel assigned with assessing the World Bank proposed Kosovo Lignite Power Project reveals that several elements are missing, inadequate, or inaccurate and need to be revised or completed before the Expert Panel should commence review of the project. The following ten items are essential for the Panel to perform its task:

1. **Ultimate Purpose of Panel and Climate Criteria** - The TOR fails to provide a fundamental explanation of the ultimate purpose of the Expert Panel and the guiding principles surrounding why WBG coal projects need to be screened against climate criteria in the first place. **The ultimate purpose of the climate criteria is to ensure that the WBG is putting forth the best possible project in terms of benefits to the poor and cleanest energy options (i.e., not simply cleaner than the existing, outdated coal technology) – to ensure WBG support for coal is only as a last resort.**

2. **Sufficient Scope of Work** - The current SOW does not give the Expert Panel the freedom to reject the proposed project for non-compliance with any of the climate criteria (i.e., coal projects must comply with all six SFDCC criteria). It also implies that if there is a problem, the Panel needs to come up with a "practical" solution to fix the current project.

3. **Accurate Kosovo Energy Profile –** The TOR does not provide a clear understanding of the power needs in Kosovo. In order to determine the optimal mix of technologies for a power project, it is essential for the Bank to include a breakdown of current demand, according to peak, non-peak, heat, etc. as well as the power capacity represented by other planned power generation projects coming on line and energy efficiency measures.

4. **Intended End-users -** The TOR does not substantiate its claim for meeting SFDCC Criterion 1 that the project impact will be "significant increase in access to electricity and/or reliability of power supply for sustained economic growth and poverty reduction". Furthermore, documents from the World Bank's early assistance to the Kosovo power sector all indicate an intention of developing Kosovo's lignite resources in large part to be exported. The decision to go forward with developing the purposed coal mine and coal thermal generation was made by the World Bank, UNMIK, and other donors well before the creation of the current government of Kosovo. The TOR needs to clearly define targeted end-users (e.g., domestic, regional grid, greater Europe) and provide assurances that targets will be met.

5. **Alternatives to Fossil Fuel for Least-cost Analysis** - The TOR claims that the proposed coal project is the least cost option. However, the Bank could not have made that determination given the financial analysis only considered fossil fuel-based options for the project. There is no cost comparison to energy efficiency measures, cogeneration, imports from the regional grid/Albania or any renewable energy alternatives. Thus, the project does not meet SFDCC Criterion III or IV. New, SFDCC-fully compliant financial and economic

analyses need to be completed and publicly released as input to the Expert Panel's review and prior to the final Request for Proposal (RFP).

6. **Comprehensive Life-cycle Cost Analysis** – The life cycle cost analysis for the proposed mine-mouth coal power plant does not consider costs associated with the coal mine operations, including mine closure and reclamation or fly ash dump costs. Moreover, the sensitivity analysis does not adequately reflect rising coal prices.

7. **Adequate Accounting of Environmental Externalities** - The environmental externalities for the proposed mine-mouth coal plant do not include the significant costs associated with the new coal mine operation or from emissions of mercury or lead, which are a big concern for lignite combustion. Moreover, the TOR and economic analysis do not specify the SOx and NOx abatement technology that will be required. Thus, the project does not adequately meet SFDCC Criterion VI.

8. **Resolved Technical and Commercial Losses** – Energy efficiency and conservation measures have not been implemented or adequately planned to address substantial technical losses in Kosovo's inefficient power distribution system (17% of gross production) or commercial losses due to non-payment/theft (30% of gross production). The Bank is largely counting on privatization to remedy these issues. However, the TOR does not provide specific details on what the Bank anticipates will be in the contract terms and how much of this gained energy efficiency can go to supply Kosovo's energy demand. Moreover, the Bank does not suggest any other energy efficiency or conservation alternatives, such as building insulation or compact florescent lights. The TOR does not provide a convincing case that the existing power generation is optimized through energy efficiency and conservation, SFDCC Criterion III.

9. **Transparent and Tangible Assistance to Low Carbon Development –** The TOR mentions several studies/activities related to low-carbon energy sources, e.g., feed-in tariffs for hydropower and wind, but does not provide the findings, expected results, and any tangible progress made towards low carbon development. Moreover, the planned wind feasibility study and low carbon growth strategy for Kosovo should have been done as part of the Bank's decade-long energy sector assistance and served as input for the current purposed project/Expert Panel assessment. By failing to produce a Renewable Energy Options study promised in 2006[1], the Bank did not meet SFDCC Criterion II in good faith.

10. **Local Stakeholder Input:** Input provided by local stakeholders should be a part of the Expert Panel's assessment. The LPTAP Appraisal 2006 states that "wide consultations with local institutions, donors, and other stakeholders, have been taken into account in the Project design." A list of who was consulted and the resulting input from the consultations on project design should be provided to the Panel. In addition, at least one local stakeholder meeting should be included in the Panel's visit to Kosovo.

[1] LPTAP 2006 Appraisal Report Procurement Plan.

Kosovar Institute for Policy Research and Development (KIPRED), Institute for Advanced Studies (GAP), Balkan Investigative Reporting Network (BIRN), Forum for Civic Initiative (FCI) Youth Initiative for Human Rights (YIHR), Internews Kosova, DokuFest, Kosovo 2.0, Prishtina Institute for Political Studies (PIPS), International Crisis Group (ICG)

The rest of the document provides comments and background material related to the above ten elements directly in the text of the World Bank-provided TOR for the SFDCC Expert Panel. When possible, suggested replacement language is provided in track changes.

Kosovar Institute for Policy Research and Development (KIPRED), Institute for Advanced Studies (GAP), Balkan Investigative Reporting Network (BIRN), Forum for Civic Initiative (FCI) Youth Initiative for Human Rights (YIHR), Internews Kosova, DokuFest, Kosovo 2.0, Prishtina Institute for Political Studies (PIPS), International Crisis Group (ICG)

Energy Sector Unit
Europe and Central Asia Region
World Bank

Kosovo: Kosovo Power Project

TERMS OF REFERENCE
for the
SFDCC Expert Panel

June 14, 2011

DESCRIPTION OF THE SCOPE OF WORK
SFDCC External Panel of Experts

Background

The World Bank Group's mission is to reduce poverty. According to the WBG's Strategic Framework on Development and Climate Change (SFDCC), "Climate change has the potential to reverse the hard-earned development gains of the past decades, and impede the progress toward achieving the Millennium Development Goals…Developing countries and the poorest communities are likely to suffer earliest and the most. This is due to their geographical location, low incomes, and limited institutional capacity, as well as their greater reliance on climate-sensitive sectors such as agriculture." [2] **The ultimate purpose of the SFDCC climate criteria and, hence, the Expert Panel, is to ensure that the WBG is putting forth the best possible project in terms of benefits to the poor and cleanest energy options (i.e., not simply cleaner than the existing, outdated coal technology) – to ensure WBG support for coal is only as a last resort.**

The WBG's SFDCC directly stems from the request of the G8 (*G8 Gleneagels Communique*, July 2005) for the World Bank to take a leading role in financing the "transition to cleaner energy". [3] As part of this request, the G8 Communique specified that, *inter alia*: The World Bank will "make the best use of existing resources and financing instruments and develop a framework for energy investment to accelerate the adoption of technologies which enable cleaner, more efficient energy production and use"; and "develop local commercial capacity to develop and finance cost-effective projects that promote energy efficiency and low-carbon energy sources" [emphasis added].

[2] The largest employer in Kosovo is the agriculture sector.
[3] The SFDCC was a follow up to the World Bank Group's Clean Energy Investment Framework, 2006.

Kosovar Institute for Policy Research and Development (KIPRED), Institute for Advanced Studies (GAP), Balkan Investigative Reporting Network (BIRN), Forum for Civic Initiative (FCI) Youth Initiative for Human Rights (YIHR), Internews Kosova, DokuFest, Kosovo 2.0, Prishtina Institute for Political Studies (PIPS), International Crisis Group (ICG)

1. Coming out of post-conflict administration by the UN, Kosovo declared independence on February 17, 2008. However, its political stability and international recognition are not yet fully secured. By April 2011, Kosovo had been recognized by 75 countries. As a poor, post-conflict and fragile state, Kosovo is only eligible for International Development Association (IDA) credits and grants. With a GDP per capita of € 1,760 it is one of the poorest countries in Europe without easy access to markets. Out of its population of about 2 million people, about 45% were living below the poverty line in 2007. Kosovo has the weakest employment record in Europe: a very high (45%) unemployment rate (76% for the 15-25 year old age group) and a low (29%) employment rate. Health outcomes are extremely low: according to 2007 UNDP data, Kosovo had the highest child and infant mortality rates and the lowest life expectancy (69 years) in Southeast Europe (SEE). Its unreliable power supply is a major impediment to private sector investment, and the associated substantial and continuing fiscal drain, crowds out priority social sector expenditures. Abundant good quality lignite is virtually the only domestic source of primary energy for base-load electricity production. To achieve energy supply reliability, Kosovo needs to replace its aging, unreliable, and highly polluting power plants. It must also urgently commence lignite production from a new mine since existing mines will be depleted in less than two years. The social and political costs of very high unemployment among a young population, caused in part by an unreliable and inadequate power supply and fiscally burdensome power sector, could be very high for Kosovo and the region.

Comment [A1]: This statement should be revisited/revised once all renewable energy options have been added to the financial analysis and the costs of coal have been accurately accounted.

2. In July 2009, the Government of Kosovo articulated a five-pronged energy strategy comprising: (a) private sector investment in a new lignite-fired power generation project, (b) privatization of the electricity distribution and supply business, (c) private sector participation in rehabilitation and environmental upgrade of the Kosovo B Power Station (derated capacity of about 560 MW), (d) decommissioning of the Kosovo A Power Station by 2016-17, and (e) development of renewable resources (including small hydropower plants, wind, solar, biomass). The World Bank, in coordination with other development partners such as the European Commission and USAID, is supporting this strategy.

3. The current electricity annual demand in Kosovo is about 5,200 GWh, a high proportion of which is being met by Kosovo A (1,229 GWh/year)[4] and B (4,319 GWh/year)[5]. Both power plants are old (Kosovo A more than 40 years and Kosovo B 25 years) and poorly maintained, resulting in unreliable power supply. This demand is expected to rise to about 7,400 GWh by 2020. Kosovo is also connected with Serbia, Montenegro, and Macedonia through a 400-kV transmission line and has started the construction of an additional 400-kV transmission line to Albania. This $X investment to improve exchanges of power with Albania is expected to result in X GWh/year for Kosovo consumption. There have been recent discussions between Kosovar and Albanian system operators to operate as a single control area. Kosovo A is the largest point source of pollution in the region and having outlived its technically and economically useful life needs to be shut down. After the decommissioning of Kosovo A in about 2016-17, there will be a considerable supply shortfall (1,229 GWh/year)[6]. New generation is needed to address this shortage of supply and a portion of the rising demand by adding about 600 MW of new capacity (representing 4,319 GWh/year)[7], with more generation additions in future years if demand grows as expected. [The Bank needs to provide an accurate energy profile for Kosovo. Electricity demand needs to be broken down according to peak

Comment [A2]: The Bank needs to provide the assumptions for this projected electricity demand. How much is accounted for by heat demand? By the lack of insulation in residential buildings?

Comment [A3]: In May 2010, the Kosovo government asked the Ministry of Energy and Mines and the Ministry of Economy and Finance to establish and instruct a working group to review and revise the Energy Market Model. This Model should be provided to the Expert Panel and the WB should provide it to the public. Local civil society has requested several times, but have yet to receive it.

[4] Estimate based on: 165 MW * 0.85 (capacity factor) * 8760 hours/year * 1 GW/1000 MW
[5] Estimate based on: 580 MW * 0.85 (capacity factor) * 8760 hours/year * 1 GW/1000 MW
[6] This estimate represents the available annual generation capacity of Kosovo A (i.e., 165 MW) according to the LPTAP Appraisal, 2006. Annex 1 lists an assumption of 390 MW of generation capacity for Kosovo A. The Bank needs to confirm what the actual figure is for current generation.
[7] Estimate based on: 580 MW * 0.85 (capacity factor) * 8760 hours/year * 1 GW/1000 MW

demand, non-peak demand, heat demand, etc.[8] to gain an understanding of the types of energy sources that can fulfill Kosovo's specific needs. The Bank needs to provide the Panel with a timeline for when the planned hydropower, wind, and biomass projects will come on line and how much additional generation capacity they represent.] The Government has studied two configurations in depth: 1x500 MW and 2x300 MW.

4. The decision between the two configurations was taken taking into account system stability and reliability, comparative plant efficiencies, relative levelized costs and overall CO_2 emissions. It was concluded that a **2x300 MW configuration** would offer significant operational flexibility and lifetime reliability advantages over the larger 500-MW units, and are a more suitable addition to the Kosovo

5. Kosovo is also a participant in the Energy Community of South East Europe (ECSEE) treaty that establishes a regional electricity market governed according to EU directives.[9] Through United Nations Interim Mission in Kosovo (UNMIK) as a signatory to the treaty, **Kosovo is committed to meet** environmental standards of thermal power plants and mining, and mitigate social impacts, as outlined by various **EU directives**. In addition, , *the WB's LPTAP Appraisal (2006) states that "Kosovo's participation in ECSEE is expected to create significant opportunities for Kosovo to use its abundant and competitive energy and mining resources to meet growing energy demand in the regional market."* In the event that the World Bank Group provides the envisaged financial assistance, the investments will have to **comply with the World Bank policies** on environmental and social safeguards.

6. The recently approved Energy Strategy of Kosovo (2009-2018) is built upon a number of analytical reports funded by the World Bank and other donors in the past ten years. In 2006, the Bank had intended to fund a Renewable Energy Options Study in order to start examining alternative energy projects early enough to influence the current investment decision. However, this study was not completed due to xxxxx. The decision to go forward with developing the purposed coal mine and coal thermal generation was made by the World Bank, UNMIK, and other donors well before the creation of the current government of Kosovo. For example, *"A regional review[10] of the energy sector concluded that the development of lignite mining in Kosovo for power generation and sale to the regional market is part of the least--cost solution to close the emerging gap in generation capacity in Southeast Europe. The concern over energy security is increasing the desire for diversification of energy supply across Europe, placing greater emphasis on lignite resources. By developing its power sector, Kosovo can also meet its own demand and improve stability of supply, thereby removing a significant barrier to private sector development currently constrained by rolling blackouts."*

Initially, the World Bank funded an Energy Sector Study leading to preparation of a White Paper on Kosovo's energy sector, adopted by the Government of Kosovo as its first Energy Strategy after the conflict, and

[8] The LPTAP Appraisal (2006) indicates that Kosovo has surplus power during non-peaking time. Power shortages occurred for peaking power and were most pronounced in winter because of heating needs. Such a situation highlights the need to have a completed assessment of the potential for both cogeneration and renewable sources.

[9] The Athens Memorandum of December *2003* established the ECSEE to create a regional energy market. In October *2005*, the ECSEE Treaty was signed by Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Romania, Serbia and Montenegro and UNMIK on behalf of Kosovo (collectively called **Regional Members);** Austria, Greece, Hungary, Italy, and Slovenia **(Participants);** and Moldova as an **Observer.** Turkey, though a signatory of the Athens Memorandum, has opted not to sign the Treaty until some issues related to climate change obligations are sorted out.

[10] LPTAP Appraisal, 2006 - Financial Aspects: The GIS objective was to assist the European Commission, IFIs, and donors to identify an indicative priority list of least-cost investments in power generation and related infrastructure from a regional perspective, i.e., in line with the objectives of ECSEE. This study identified a new lignite-based plant in Kosovo as part of the least cost plan in terms of new capacity additions. [See "Regional Balkans Infrastructure Study - Electricity (REBIS) and Generation Investment Study (GIS)", December 2004 by PwC Consortium.]

periodically updated and revised. The Government strategy aims to: (a) reduce CO_2 emissions per MWh produced, (b) significantly reduce local air pollution, (c) manage end-user demand and create an enabling environment for energy efficiency by instilling payment discipline, and (d) facilitate private sector investment in generation as well as in other sectors of the economy. To that end, the Government has completed a technical analysis of the various technology options for the new lignite-fired thermal power plant. Also, with the help of IDA and Dutch grant funds, the Government has already started environmental encapsulation and clean-up of the old ash dump and a long-abandoned coal gasification plant at Kosovo A. In addition, the EC commissioned a detailed study on Kosovo A which reconfirmed that Kosovo A is a highly inefficient and polluting power plant at the end of its life cycle and that its immediate decommissioning would be advisable. In support of Government's energy strategy, Energy Regulatory Office with support from the World Bank completed an assessment of regulatory and legal framework, and feed-in-tariff, for incentivizing the development of renewable energy sources. The cost of wind and hydropower after the planned Feed-In Tariff policy is applied will be X /kWh for wind and X/kWh for hydropower. The FIT policy is expected to result in X GWh/year of electricity by 2018.

7. A pre-feasibility study was completed for the 300 MW Zhur Hydroelectric Power Plant, while the Government is currently starting a competitive selection process for private sector participation in construction of eighteen small hydro power plants. The planned timeline for the hydropower projects is xxxxx. It is expected that X GWh/year additional capacity will be available to Kosovo by 2020. Going forward, with additional financing from the Bank, the Government proposes to pursue several low-carbon growth opportunities. It aims to create a **low-carbon growth strategy** that would include building an energy sector **greenhouse gas (GHG) inventory**; a study on the potential for **wind power** generation in Kosovo [Note: The wind study is critical as input to the current investment decision and should be completed prior to the Expert Panel's assessment and prior to the final RFP. It should also look at the potential for the coupling of wind and hydropower as a base load option.]; a **carbon capture and storage** (CCS) feasibility study for certain geologic formations in Kosovo; and an **energy efficiency** study.

World Bank Group involvement

8. For the past few years, the World Bank has been active in Kosovo energy sector through the **Lignite Power Technical Assistance Project** (LPTAP), whose objectives are: (i) to help the Government strengthen the enabling policy, legal, and regulatory frameworks conducive to new investments in the energy sector; and (ii) to assist the Government in attracting qualified private investors to develop lignite mines and build new capacity for lignite thermal power generation guided by high standards of environmental and social sustainability. To achieve these objectives, LPTAP is financing, *inter alia*, the preparation of the Kosovo Power Project (known in Kosovo as the ―Kosova e Re Project‖), including the Transaction Advisor (PricewaterhouseCoopers), Legal Advisor (Hunton & Williams), and Safeguards Advisor (ERM Italia). While the work of the Transaction and Legal Advisors are ongoing, the Safeguard Advisor has completed its work with delivery of a *Strategic Environmental and Social Assessment* (SESA).

9. Other development partners are also active in the Kosovo energy sector: **USAID** has funded studies for assessing the technical and economic feasibility of rehabilitation of Kosovo B, while the **European Commission** has funded a feasibility study to assess decommissioning of Kosovo A thermal power plant. **KfW** has invested in mining equipment and substations, in addition to the 400-kV transmission system with Albania, and is leading the EC investigation of converting Kosovo B into a combined heat and power plant. [Given the very high heat demand load on the Kosovo power system (estimated at over 30% of gross production), the cogeneration conversion of Kosovo B study must be completed for consideration of the current investment decision. The Expert Panel TOR must be

updated with this information and how it ultimately affects overall electricity demand in Kosovo.] Through another IDA Grant, the Bank is helping in environmental clean-up of Kosovo A ash dump, and an old, abandoned, coal gasification plant.

10. The Government has invited private sector investors to invest in the **—Kosovo Power Project"** that includes:

(a) build-own-operate a new lignite-fired 2x300 MW power plant called **KRPP**;

(b) rehabilitate-own- [or –lease-] -operate the 2x340 (derated 2x280) MW **Kosovo B** power plant; and

(c) build-own-operate-transfer a new lignite mine called the **Sibovc South Lignite Mine**. KRPP will be an extension of the Kosovo B site and have some common facilities.

Comment [A4]: From the RFP, the Bank needs to provide technology features, including main generation technology and required SOx and NOx abatement.

11. In parallel, the Government has also launched privatization of the Kosovo Electricity Distribution and Supply company (**KEDS**) that will help improve operational and financial efficiency, demand side management, and reduce losses. [The privatization process is expected to reduce losses and improve efficiency by X through the following specific measures: xxxxxxx. This will result in X GWh/year additional electricity supply for Kosovo by 2018. IFC has been engaged as Transaction Advisor for the privatization of KEDS.

12. The Government intends to request that a portion of its IDA lending envelope be allocated for an **IDA partial risk guarantee (PRG) for the "Kosovo Power Project"** described in paragraph 10. MIGA and IFC are also expected to participate. The Government may also request, if necessary, a second IDA partial risk guarantee to support privatization of KEDS if so required by the private investors.

13. The Government has prequalified four international consortiums to bid for the construction and operation of the Kosovo Power Project. The winning bid will be chosen through a two-stage transparent bidding process. The advisory team, with input from the inter-ministerial **Project Steering Committee** (PSC), has finalized the Draft RFP that includes key technical, financial, and legal parameters of the transaction. The Draft RFP was issued to the prequalified bidders in August 2010 to obtain their comments which have been since received. The Final RFP, revised with due consideration to the bidders' comments, is expected to be issued by August 2011, and the final bids are expected to be evaluated in the first quarter of 2012. The selected investor will be required to submit environmental management plans for the power plants and the lignite mine, and a mine opening plan, to the relevant regulatory authorities in Kosovo. These documents will also have to be submitted to the Bank by the investor before financial support is approved by the Bank.

Comment [A5]: This date needs to be pushed back to allow for the completion of the cogeneration study, the wind feasibility study, and to complete sufficient financial analysis with energy efficiency and renewable energy alternatives.

SFDCC Expert Panel

14. *Strategic Framework For Development and Climate Change* (2008) (SFDCC) provides the World Bank Group policy on participation in coal-based power generation projects. The SFDCC outlines the following criteria based on which the World Bank Group could support a particular coal project:

(i) there is a demonstrated developmental impact of the project including improving overall energy security, reducing power shortage, or access for the poor;

(ii) assistance is being provided to identify and prepare low-carbon projects;

(iii) energy sources are optimized, looking at the possibility of meeting the country's needs through energy efficiency (both supply and demand) and conservation;

(iv) after full consideration of viable alternatives to the least cost (including environmental externalities) options, and when the additional financing from donors for their incremental cost is not available;

(v) coal projects will be designed to use the best appropriate available technology to allow for high efficiency and, therefore, lower GHG emissions intensity; and

(vi) an approach to incorporate environmental externalities in project analysis will be developed.

15. These criteria are applicable for new coal-based electricity generation facilities, and rehabilitation and modernization of existing coal power plants. However, the rehabilitation and modernization projects are excluded from complying with criteria (i) and (v) in cases where rehabilitation projects result in reduction in lifecycle GHG emissions relative to the relevant counterfactual.

16. In line with the above, *Operational Guidance for World Bank Group Staff* on *Criteria for Screening Coal Projects under the Strategic Framework for Development and Climate Change* (March 2010), referred to herein as the Operational Guidance, necessitates the project team to prepare an assessment of project compliance with the six SFDCC criteria following the Operational Guidance methodology. Furthermore, the Operational Guidance also requires the engagement of an **External Expert Panel** to evaluate the proposed project's compliance with the screening criteria. The Panel will include three experts in the fields of (a) power systems planning and economics, (b) energy policy including evaluation of low-carbon options for the energy sector, and (c) power technologies. One of the members will be appointed as the Panel Chair.

17. **The ultimate purpose of the SFDCC climate criteria and, hence, the Expert Panel, is to ensure that the WBG is putting forth the best possible project in terms of benefits to the poor and cleanest energy options (i.e., not simply cleaner than the existing, outdated coal technology) – to ensure WBG support for coal is only as a last resort.** The objective of the Panel is to (i) review the concept for the proposed Kosovo Power Project, and (ii) assess the compliance of the Kosovo Power Project with the six screening criteria of the SFDCC. When assessing whether the proposed project has passed the screening criteria, the Panel will be guided by the Operational Guidance, and the documents available in **Annex 1,** which includes the project team's assessment of the application the SFDCC criteria to the Kosovo Power Project, and the large amount of analytical work listed in **Annex 2**.

18. The World Bank will appoint each of the Experts as Short-Term Consultants to the Bank for the provision of the assignment. The appointment of each member of the Panel will expire upon resignation, replacement for due cause, or completion of these Terms of Reference. Subject to the Budget approved by the Bank, the Chairperson will have the authority to appoint short-term specialists, subject to the agreement of the Bank and with supplemental funding as may be required, for specific assignments.

19. These Terms of Reference of the Panel, along with the names and resumes of the Panel members, will be made available to the public on the World Bank website.

Scope of work

20. The "assignment" of the Panel is to review the Kosovo Power Project (described at paragraph 10) according to the six SFDCC screening criteria, prepare two written reports, and thereby advise the World Bank Group whether the Kosovo Power Project complies with the SFDCC criteria and specifically meets the requirements of the Operational Guidance, including the set of monitoring indicators. The Panel will base its review on available documents and local stakeholder input, including, *inter alia*, **Annex 1** and those listed in **Annex 2**. The Bank will provide these documents and others, as requested, on a timely basis.

21. **Phase One**. The Panel will prepare a short Phase One Report to assess whether the project complies with the six SFDCC criteria. The Panel would also assess the consistency between the specifications in the Draft RFP and the best appropriate available technology criterion. The assignment may include one field trip to Kosovo of about 3-5 days in-country. The Coordinator will assist with arranging meetings in Kosovo.

22. **Phase Two**. Phase Two of the assignment relates to the review of the proposal of the winning bidder as negotiated with the government. The Panel will review any modifications to the technical specifications or the technology offered by the selected bidder in their proposal, and assesses compliance with the SFDCC best appropriate available technology criterion. Phase Two is expected to commence after a successful bidder is selected and ratified, during the project contract finalization period and be completed before presentation of the proposed IDA PRG to the World Bank management and the Board of Executive Directors. The Initial budget is indicated at paragraph 36.

23. The Coordinator will arrange for internal Bank experts to answer questions by telephone, as reasonably requested.

24. In the event that the Panel concludes that ~~has reservations about how some criteria have been applied~~ the proposed project is in non-compliance with any of the six SFDCC criteria, the Expert Panel may reject the proposed project fully or in part due to non-compliance with any of the six SFDCC criteria. Furthermore, when possible, the Panel should provide recommendations on alternatives to the project/project components that would fully comply with the SFDCC criteria.

~~it would provide practical and viable recommendations to the Bank to make this project consistent with the objectives of the SFDCC~~.

Deliverables

25. **Phase One Report** (about 15-20 pages) will be prepared by the Panel assessing whether the project complies with the six SFDCC criteria based on the methodology provided in the Operational Guidance. The report will also assess the consistency between the specifications in the Draft RFP and best appropriate available technology criterion. The Phase One Report will be due one month after appointment of the Expert Panel and before the Final RFP is issued.

Comment [A6]: The Panel needs to be given one month after receiving the cogeneration study, the wind study, and the improved financial analysis, including financial analysis of energy efficiency and renewable energy alternatives, sufficient life-cycle cost analysis, and adequate accounting for environmental externalities (see comments in Annex 1).

26. The **Phase Two Report** of the Panel will be a concise report reviewing any modifications to the technical specifications or the technology offered by the selected bidder in their proposal, and assessing compliance with the SFDCC best appropriate available technology criterion. The work of the Panel is expected to be completed within two months (see paragraph 36 for Initial Budget) from the start of Phase Two. However, the work of the Panel may be extended to review any modifications that may be made during negotiations of the project agreements. Therefore, the Panel may be called for further review up until the time of approval of the proposed IDA PRG by the Bank's Board of Executive Directors.

Kosovar Institute for Policy Research and Development (KIPRED), Institute for Advanced Studies (GAP), Balkan Investigative Reporting Network (BIRN), Forum for Civic Initiative (FCI) Youth Initiative for Human Rights (YIHR), Internews Kosova, DokuFest, Kosovo 2.0, Prishtina Institute for Political Studies (PIPS), International Crisis Group (ICG)

[Note the last six sections of the TOR have no additional comments. Comments continue in Annex 1]

Procedure for submission of reports
Panel mandate
Expert not to be engaged in certain activities
Confidentiality
Administration
Remuneration and Reimbursables

ANNEX 1—SFDCC Criteria for Screening Coal-Based Power Projects

General Assumptions:

1) Energy Demand forecast is based on the "medium growth" scenario as outlined in the Energy Strategy of the Republic of Kosovo for the period 2009-2018.

2) Funding is available for various components of the project funded by other donors.

3) Installation of new rotors etc in 2010-11 at Kosovo B, improving output from 260 MW to 335 MW1, implementation of a life extension through 2030 or later.

4) KRPP is completed, and adds 580 MW (net) of base-load capacity or 4,319 GWh/year to Kosovo Power System, on schedule in 2016-2017.

5) Kosovo A (390 MW) is decommissioned by 2017.

6) KEDS is privatized and achieves improvements in its operational and financial performance, through the following specific measures: xxxxxxx. This will result in **X** GWh/year additional electricity supply for Kosovo by 2018.

Comment [A7]: The Bank should provide the assumptions of this projected growth, including how much is based on heat demand, accounting for the lack of insulated residential buildings that could be remedied through alternative measures.

Comment [A8]: The LPTAP Appraisal, 2006 states that: "Net available thermal generation capacity is 780 MW, comprising 165 MW of Kosovo **A** (between 30 and 45 years old) and 580 MW of Kosovo B (about 20 years old)." Please explain why the TOR generation figure does not match up?

Comment [A9]: LPTAP Appraisal, 2006 states that: "Net available thermal generation capacity is 780 MW, comprising 165 MW of Kosovo **A** (between 30 and 45 years old) and 580 MW of Kosovo B (about 20 years old)." Please explain why the TOR generation figure for Kosovo A does not match up?

Criteria and Impacts	Description	Quantitative Indicators

Kosovar Institute for Policy Research and Development (KIPRED), Institute for Advanced Studies (GAP), Balkan Investigative Reporting Network (BIRN), Forum for Civic Initiative (FCI) Youth Initiative for Human Rights (YIHR), Internews Kosova, DokuFest, Kosovo 2.0, Prishtina Institute for Political Studies (PIPS), International Crisis Group (ICG)

(i) ***Criterion: There is demonstrated developmental impact of the project, including improving overall energy security, reducing power shortage, or access for the poor*** **Impact**: significant increase in access to electricity and/or reliability of power supply for sustained economic growth and poverty reduction	**Reducing power shortages**. The proposed **Kosova e Re Project** will make a substantial improvement in overall power supply and reliability by replacing and supplementing the highly polluting old units of Kosovo A. Provided there is also progress on billing and collections (largely being managed under a USAID program), the current load shedding regime could be reduced or ended. Timely opening of the new Sibovc South Lignite combined with improved exchanges of power with neighboring networks such as the one from Albania, which is largely hydro-power based and therefore highly complementary to Kosovo's lignite-based system. The decommissioning of Kosovo A will result in the loss of 1,229 GWh/year. The new KRPP plant will result in 4,319 GWh/year. Expected progress on collections will result in X% reduction in	Reliability of Power Supply: o The gap between unmet electricity demand and generation was 477 GWh[2] in 2009. The medium growth demand scenario[3] forecasts that electricity demand would rise to about 7,000 GWh in 2018. The project is expected to fulfill this demand after accounting for the loss of generation capacity due to the decommissioning of Kosovo A.[4] o Demand of about 9 million tonnes of lignite from new mine from 2012. The new mine is expected to supply the required lignite to maintain generation. Figure 1. Lignite demand forecast, 2006 -2024 [see graph in original TOR] Addition of 580 MW (net) of base-load capacity to the system by KRPP by end-2017. o Improvement in the perceived business climate in Kosovo: Currently, 9 out of 10 firms cite electricity supply as a constraint to doing business.[6] **Access to electricity**: Maintenance of 98% or higher level of **reticulation** by KEDS. How does this ensure increased access to electricity for Kosovo consumers? Specifically the poor? The Bank needs to provide the following information on intended users: Of the 4,319 GWh from the new KRPP plant, X GWh will be targeted for X domestic consumers? How much is intended for the regional grid/greater Europe? How will these targeted outcomes be monitored? **Energy Security**: Current generation plants are unreliable. o Kosovo B1 in 2009 had 33 outages, 19 of them were system failures and 14 disconnections. It underwent repair for 40 days, there were also 2 additional repairs for nine days each. Unit B2 had 14 outages, of which 10 were disconnections and 4 system failures. It underwent repair for 40 days and had 2 additional repairs for nine days each[7]. The rehabilitation of Kosovo B will significantly reduce outages and failures.

Comment [A10]: What are the details surrounding the unmet demand? Was the unmet demand, peak demand? Was the unmet demand mainly during winter for heating? Could it be supplied by the planned 300 MW hydropower and 100 MW wind in combination with cogeneration and energy efficiency improvements?

Comment [A11]: What are the assumptions behind this projections? How much is related to heat demand?

Comment [A12]: WB LPTAP Appraisal, 2006: "For transmission interconnection, recent studies have confirmed the availability of capacity to transmit about 600 MW of additional power from Kosovo to the southern parts of the ECSEE network. …"recent reconnection of the power system of the South East Europe Region, including Kosovo, to the main European power system operated by UCTE."

	commercial losses or X GWh of supply (Note: not part of the proposed investment). Power exchanges with Albania could reach X GWh/year (Note: not part of the proposed investment). If Kosovo B were converted to a combine heat electricity generation plant, this measure would add additional X GWh/year to Kosovo's supply. The planned hydropower, wind, geothermal, and solar hot water heaters will add X GWh/year by 2020. Planned energy efficiency measures will add X GWh/year by 2020.	With privatization plans, how is domestic supply guaranteed? How will the price of domestic electricity be affected? Are there any stipulations on the investors to supply domestic consumers first? Are there any provisions to ensure access for poor communities? o From a net exporter in 2000 Kosovo became an importer of electricity – importing 12.6% of its total consumption.[8] **Investment in** the 400 kV line Kosovo–Albania is meant to promote power transfers between the two countries, which may result in Kosovo importing a percentage of its domestic needs.
Criteria and Impacts	**Description**	**Quantitative Indicators**
(ii) ***Criterion: Assistance is being provided to identify and prepare low-carbon projects*** **Impact:** identification and possible support to Renewable Energy (RE), Energy Efficiency (EE), and other low-carbon interventions, projects, and	**Low-carbon projects**. Kosovo has limited low-carbon electricity generation opportunities. The Government is in the process of looking for private investors in the Zhur hydroelectric project, for which a pre-feasibility study was completed under LPTAP. The Gazivoda pumped storage hydroelectric scheme needs to be progressed once security situation improves in the northern part of the country. Work on a PPIAF (Public-Private Infrastructure Advisory Facility)	☐**Renewable energy**: o IDA funded a **preparation study for the Zhur Hydro Power Plant (May 2009)**. The objective of the study was to prepare a pre-feasibility study and a preliminary Environmental and Social Impact Assessment. What will be the impact on power generation capacity in the country, How many GWh by when? How does it change the financial analysis for proposed project? o The Danish development agency has funded a **study of potential for developing small hydropower plants** in Kosovo. The study estimates a potential of 63 MW.9 What is the investment plan to get these plants on line by 2020? o **Preparation of a wind feasibility study** (in cooperation with work by REPIC/AUK). This work is ongoing; IDA proposes to supplement the project with

Comment [A13]: This statement can not be made without the completion of the cogeneration study, energy efficiency alternatives analysis, providing the results of the hydropower studies, geothermal feasibility study.

policies, and identification of associated reductions in GHG emissions, exploiting the synergies between Bank/IFC/MIGA policy dialogue and action plans	funded study to help Energy Regulatory Office implement "Feed-in" tariffs for renewable was completed recently. In addition, Kosovo also exchanges off-peak thermal power with Albania in return for Albania's hydropower. The volume of power exchange between them would further increase on completion of construction of a 400 kV transmission interconnection between Albania and Kosovo. The Bank had funded a feasibility study and KfW is financing construction of this transmission interconnection. The Bank proposes to support a number of initiatives, some in cooperation with other donors, to promote a longer term strategy of reduction in carbon dioxide intensity. The Government's Energy Strategy of Kosovo (September 2009) includes a framework and indicative targets for Energy Efficiency and Renewable Energy.	funding for an expanded wind survey database. IDA-funded study is proposed to begin in early 2011 after approval of additional financing for LPTAP and complete in six months. The Energy Regulatory Office (ERO) Board has recently issued a preliminary authorization to the "Kosova Ter. Windparkcompany" to develop wind energy generation capacities of 100 MW. The wind study is critical as input to the current investment decision and should be completed prior to the Expert Panel's assessment and prior to the final RFP. It should also look at the potential for the coupling of wind and hydropower as a base load option. When is the 100 MW wind power coming on line? o ERO has adopted "feed-in" tariffs for small hydropower and wind farms. The cost of wind and hydropower after the planned Feed-In Tariff policy is applied will be X /kWh for wind and X/kWh for hydropower. The FIT policy is expected to result in X GWh/year of electricity by 2018. o The Government has set as a target for Kosovo to reach a renewable share of 7% by 2016.[10] How does the new coal generation project coming on-line in 2017 impact this target? ☐**Energy efficiency**: o See criterion (iii). ☐ **Other:** o **Preparation of a greenhouse gas inventory** for the energy sector. This study will necessarily precede the preparation of a low-carbon growth strategy. An IDA-funded study is proposed to begin after approval of additional financing for LPTAP and complete in six months. o **Preparation of a feasibility study for carbon capture and storage (CCS)** in Kosovo. This study will be funded by the CCS Trust Fund for completion in 2011. o **Preparation of a low-carbon growth strategy** for the energy sector in Kosovo. Building on the projects and studies mentioned above, work on the proposed low-carbon growth strategy is slated to begin in mid-2011 and complete by year-end 2011 under IDA

Comment [A14]: The World Bank should explain to the Panel why the World Bank did not conduct the Wind, cogeneration, and low-carbon growth strategy studies as part of their technical assistance feeding into the proposed project. The Bank has been providing technical assistance on the energy sector in Kosovo for a decade. In fact, LPTAP 2006 stipulated assistance on renewable energy, cogeneration, and energy efficiency (see footnote)[1]. For example, the LPTAP 2006 Appraisal Report Procurement Plan lists a Renewable Energy Options Study. The Expert Panel needs to be provided with this study or an explanation for why the Bank did not complete this study and the other LPTAP renewable energy, cogeneration, and energy efficiency activities.

		funding. o **Capacity building** in the Ministry of Environment and Spatial Planning. IDA-funded program to enhance the skills of Government to evaluate and monitor environmentally and socially important projects. Proposed to begin in 2011. The World Bank should explain to the Panel why the World Bank did not conduct these studies as part of their technical assistance feeding into the proposed project. The Bank has been providing technical assistance on the energy sector in Kosovo for a decade. In fact, LPTAP 2006 stipulated assistance on renewable energy, cogeneration, and energy efficiency (see footnote)[11]. For example, the LPTAP 2006 Appraisal Report Procurement Plan lists a Renewable Energy Options Study. The Expert Panel needs to be provided with this study or an explanation for why the Bank did not complete this study as well as the other LPTAP renewable energy, cogeneration, and energy efficiency activities.
Criteria and Impacts	**Description**	**Quantitative Indicators**

[11] (LPTAP Appraisal 2006) ***Subcomponent 3 -Renewable Energy, Cogeneration and Energy Efficiency.*** The objective of this subcomponent is to help MEM develop policies and strategies to promote renewable energy, cogeneration and energy efficiency in Kosovo. This will also examine development options for the two candidate hydropower plants, namely, the Zhur and Ujeman hydropower plants.
Renewable Energy (LPTAP Appraisal 2006**):** The heat market in Kosovo, which accounts for a large part of the energy consumption of the population, will be carefully examined, and a strategy for the heat sector will be defined during 2006 and adopted by mid-2007. The potential for renewable energy will also be studied and policies and financial instruments that support renewable energy development will be adopted. The hydro potential, amongst other options, will be examined closely in this regard. Across the energy sector, a suitable portfolio standard (compatible with EU standards) will be developed and adapted, to gradually increase the proportion of renewable energy sources in Kosovo's electricity generation.

(iii) ***Criterion: Energy sources are optimized, looking at the possibility of meeting the country's needs through energy efficiency (both supply and demand) and conservation*** **Impact**: evaluation of existing plans on future energy requirements by incorporating EE (both demand and supply) and energy conservation interventions and quantifying their impacts. If not satisfactory, help in their establishment and implementation to facilitate a full cost economic comparison of supply and demand resources to meet energy needs capitalizing on the synergies between Bank/IFC/MIGA policy dialogue and action plans.	**Improved energy efficiency:** ~~(i)~~ development of an initial Energy and Energy Efficiency Database for Kosovo, a survey of energy efficiency in public sector buildings and an energy efficiency education program by the American University in Kosovo; (ii) ongoing through a management contract funded by USAID (a) a commercial loss reduction program, inter alia through improved metering and billing and collection programs; and (b) improved demand side management practices initially focusing on large industrial and commercial consumers ; (iii) through loss reduction and efficiency improvement targets to be set as part of multi-year tariff compact with to-be-privatized KEDS (IFC hired by the Government as Transaction Advisor) (iv) supply-side efficiency through improved management practices at Kosovo B and KRPP and at KEDS; (v) EC, GTZ is leading an energy efficiency capacity building program; World Bank Institute would supplement this effort through a regional program. KfW is examining the feasibility of potential cogeneration of heat and power at Kosovo B and/or KRPP to provide steam for the Pristina district heating	☐ **Energy efficiency:** o Completion of the KfW-funded feasibility study on **cogeneration for district heating** in Pristina.. Incorporation of the results of the feasibility study in the Final RFP for the Kosova e Re Project. o Completion of the **Energy and Energy Efficiency Database** as designed by American University of Kosovo by the end of 2011. It also includes an energy efficiency survey of the public sector buildings and an education campaign by end of 2011. o Expansion of **improved metering** of KEDS customers by 2012. ☐**Energy conservation:** o **Reduction of commercial losses** (theft and non-payment) (about 35% in 2009) and **technical losses** in distribution (17% in 2009) by privatizing distribution and supply of electricity. Targets for loss reduction and efficiency improvements in distribution will be part of the privatization agreements and incorporated in the tariff review process by the regulatory agency. If the Bank is counting on privatization to solve this then it needs to provide specific details on what it anticipates will be in the contract terms and how much of this gained energy efficiency can go to supply Kosovo's energy demand, etc.... The Bank should also provide an economic analysis of the difference in value to the government of fixing the system now compared to offering the KEK asset in its inefficient state. Energy efficiency represents a huge potential, least cost alternative. The Bank needs to start by substantiating what will be done to reduce the loss of electric energy in the grid, support for programs to insulate residential buildings and consideration of programs such as the WB compact florescent light bulb distribution project in Bangladesh. The Bank needs to provide specific details on the measures that will be taken and the expected results in GWh/year for Kosovo.

	system. Under the RFP for the Kosova e Re Project, bidders will be required to implement this option if the results of the feasibility study are positive. Provision of heat through cogeneration could potentially save the district heating system up to 10,000 tonnes of heavy fuel oil per year. [Given the very high heat demand load on the Kosovo power system (estimated at over 30% of gross production), the cogeneration conversion of Kosovo B study must be completed for consideration of the current investment decision. The Expert Panel TOR must be updated with this information and how it ultimately affects overall electricity demand in Kosovo.]	
Criteria and Impacts	**Description**	**Quantitative Indicators**
(iv) ***Criterion: After full consideration of viable alternatives to the least cost (including environmental externalities)***	**Viable alternatives**. Kosovo has no other viable alternatives for large-scale base load power generation besides lignite. It has no access to natural gas imports. Hydroelectric and wind power opportunities are limited in size. Opportunities to import power	**Leat-coste Analysis**

Comment [A16]: This statement is confusing. The Bank has not established that Kosovo needs a "large-scale" base load power plant. Currently, it's electricity deficits tend to happen for peak load power. In addition, the new KRPP lignite power plant is two 300 MW units. The proposed Zhur Hydroelectric Power Plant would be 300 MW and there are multiple 100 MW wind power projects planned.

options, and when the additional financing from donors for their incremental cost is not available **Impact**: project is confirmed to be the least cost after full consideration of alternatives and inclusion of environmental externalities in the analysis; in case other options are economically viable, availability of additional financing from donors to cover incremental costs have been pursued and assessed (but ultimately does not materialize).	from neighboring countries are limited due to transmission constraints as well as the high cost of imported power in the tight regional market. The regional Generation Investment Study 2004 (referred in Section (i)), and its update in 2007 to reflect changes in the price of fuel and carbon, concluded that Kosovo lignite power would be the least cost in varying capacity (between 2000 to 4800 MW) under various scenarios of carbon costs, fuel prices, and regional integration[11]. Kosovo already swaps some power off-peak with the predominantly hydroelectric system in Albania. KfW is financing a new 400-kV transmission system between Albania and Kosovo, which should allow improved optimization between the two systems. What is the expected power exchange between Kosovo and Albania? The Bank needs to match the proposed new coal-based power generation for base load with Kosovo's actual energy needs profile, considering all potential alternatives including, cogeneration, which will address the large heat demand load on the electricity system, the huge potential for energy efficiency improvements as a source of additional energy supply, and renewable sources (mainly wind, hydropower, geothermal, and solar water heaters).	o **Least-cost analysis will be updated at the time of appraisal** of the proposed PRG from the 2006 analysis taking into consideration the updated project costs and environmental externalities, and EU directives. o The analysis done in 2006 shows that the project is least-cost after consideration of alternatives and factoring in environmental externalities costs into the levelized cost of electricity under investigated environmental cost scenarios with costs of greenhouse gas (GHG) emissions ranging between €5-19/tonne CO_2-eq [The Bank needs to add cost comparisons to energy efficiency measures, cogeneration, imports from the regional grid/Albania or any renewable energy alternatives. Otherwise, the project is not in compliance with Criterion IV. [The sensitivity analysis needs to adequately reflect rising coal prices. See comment on least-cost analysis.] [The life cycle cost analysis for the proposed mine-mouth coal power plant must include costs associated with the coal mine operations, including mine closure and reclamation.] See Table 2, below.

Comment [A17]: 1. The life cycle cost analysis for the proposed mine-mouth coal power plant does not consider costs associated with the coal mine operations, including mine closure and reclamation or fly ash dump costs. Moreover, it appears that the sensitivity analysis does not adequately reflect rising coal prices. The Newcastle spot market prices for coal have doubled in the past four years. Coal prices account for anywhere between 40-80% of the levelized cost of electricity (LCOE).

Comment [A18]: The current analysis was produced as part of the LPTAP Appraisal (2006) under Task 5: Economic and Financial Analysis, which stipulated: "The economic analysis should integrate the forgoing and show the range of results for the recommended three options and assumptions (sensitivity analysis) compared to the alternatives, including gas and renewable sources and electricity import." The analysis only considers fossil fuel-based alternatives for the project, i.e., three different coal technologies, combined cycle natural gas, and fuel oil. There is no cost comparison to energy efficiency measures, cogeneration, imports from the regional grid/Albania or any renewable energy alternatives.

Comment [A15]: The consideration of alternatives and environmental externalities is largely inadequate. See comments in this section.

		☐**Environmental Externalities:** o Environmental externalities were quantified for the project and alternate generation technologies in 2006. Environmental and particularly health impacts related to air emissions of SO2, NOx, NH3, NMVOC, and primary particles, and the emission of GHG (CO2, CH4, and N2O) were considered. [The Bank needs to adequately account for the environmental externalities associated with the proposed mine-mouth lignite power plant. To begin it needs to add the significant costs associated with the new **coal mine operation** and the costs from emissions of **mercury and lead**, which are a big concern for lignite combustion. Moreover, the TOR and economic analysis need to specify and account for the actual SOx and NOx abatement technology that will be required. o Estimated cost of environmental/health impacts range from 0.69-0.76 eurocent/kWh for coal technologies to 0.75 eurocent/kWh for fuel oil and 0.24 eurocent/kWh for combined cycle. o Emissions of GHG range from 0.92-1.02 kg/kWh for coal technologies to 0.81 kg/kWh for fuel oil and 0.42 kg/kWh for combined cycle natural gas.[13] Valuing such emissions at **€19/tonne** of CO_2-equivalent the carbon costs of the lignite plant are about 1.75-1.94 eurocents per kWh, while the fuel oil plant has a climate cost of 1.54 eurocents. These prices are 0.41-0.45and 0.37 eurocent/kWh, respectively, at a price level of CO_2-eq **€5/tonne** (approximately the price of CDM certified emissions in 2006) as was investigated in the Economic Analysis carried out by the Bank team. The CCGT plant would have a carbon cost of 1.04 eurocents[14] at a price level of CO2-eq €19/tonne but is not feasible due to unavailability of natural gas in Kosovo.
Criteria and Impacts	**Description**	**Quantitative Indicators**

Comment [A19]: The analysis indicates the project will only achieve ~70% reductions in Sulfur Dioxide and Nitrogen Oxides. The best technologies achieve reductions of 90% or greater.

(v) ***Criterion: Coal projects will be designed to use the best appropriate available technology to allow for high efficiency and, therefore, lower GHG emissions intensity*** **Impact**: assessment of the appropriateness of the selected technology option, factoring in specific system constraints and size requirements, technical, local environmental situation, commercial availability of technology, and environmental performance.		☐**Analysis of alternative technology options:** o **Comparison between continuing of Kosovo A with KRPP:** Retirement of Kosovo A from active service by end-2017 and replacement by KRPP, would increase efficiency from about 25%[20] to at least 37%. o The **technology analyses** for KRPP were completed in February-April 2010. The technology alternatives considered were ultra-supercritical pulverized coal (PC) with a thermal efficiency of 42% and circulating fluidized bed (CFB) subcritical with a thermal efficiency of 38 to 39% depending on the unit size.[21] o **Implementation of KRPP with a thermal efficiency higher than 37%**. The RFP for the Kosova e Re Project requires the investor to use the best available technology with a minimum thermal efficiency of 37% for KRPP. Selection of the winning bidder will depend, in part, on the efficiency of the proposed technological solution. o Completion by investor of **environmental rehabilitation of Kosovo B** by end-2017; compliance of Kosovo B with EU LCP directive for existing plants. The *Kosova —B‖ Investment Requirements and Rehabilitation Feasibility Study* will present alternatives that would be costed out by the investor and presented to the govt. to make a decision. The investment decision would be further presented to the regulatory agency for review and approval. ☐**Extension to Regional Analysis:** o Assessment of regional considerations for the project and technology choice completed in 2004 (updated in 2007). Regional analysis does not change the technology choice and finds Kosovo lignite to be the least cost power generation options in South East Europe.[22]
Criteria and Impacts	**Description**	**Quantitative Indicators**

(vi) ***An approach to incorporate environmental externalities in project analysis will be developed*** **Impact**: develop a methodology for assessment of net local (SOx, NOx, and PM) and GHG emissions at the project level. Such methodologies will be included in the analysis of alternatives and least cost options in criterion (iv) above.	Technology switching values for carbon dioxide can be calculated during appraisal if so desired, although assumptions regarding realistic alternative fuel supplies are risky. Emissions from Kosovo B will be reduced through rehabilitation. The Kosova e Re Project will include monitoring of emissions at the project site.	☐ **Environmental externalities: [see comments on Criterion iv, above]** o An **economic analysis** that took into consideration environmental externalities was completed in 2006 and a summary is included in the Project Appraisal Document for LPTAP. A **new economic analysis** will be carried out at project appraisal that includes a new and expanded evaluation of switching values, based on the results of the competitive tender for the Kosova e Re Project. ☐**Baseline values and projections:** **Table 3*: Total projected air emissions from power generation (tonnes per annum)**[23] [Could not copy table. See original TOR]

Table 2: Levelized cost with and without environmental externalities, 2006 (in eurocents/kWh)[12]

	Without env. externalities	With env. externalities CO_2-eq €5/tonne	With env. externalities CO_2-eq €19/tonne
Lignite subcritical	3.60	4.92	6.30
Lignite supercritical	3.55	4.84	6.09
Lignite ultra-supercritical	3.58	4.83	6.02
Natural gas combined cycle*	5.47	5.95	6.51
Fuel oil	6.48	7.82	8.77

*Kosovo has not known gas resources or supply source. However, in the region several proposals for building a gas pipeline through South East Europe have been discussed for several years at a conceptual level by market players and the governments. Though highly uncertain, an assessment was carried out on the assumption that gas becomes available for power generation in Kosovo.

ANNEX 2—Key Reports

Key project documents relating to compliance with SFDCC:

1. *Energy Strategy of the Republic of Kosovo (2009-2018)*, September 2009.
2. *Draft Request for Proposals* for the Kosovo e Re Project, issued 10 August 2010.
3. Technical Background Paper Energy Sector for the Donors Conference, 2008.
4. *Strategic Environmental and Social Assessment*, ERM Italia, 2008.
5. *Regional Balkans Infrastructure Study—Electricity (REBIS) and Generation Investment Study (GIS)*, prepared by PwC Consortium (PricewaterhouseCoopers LLP, Atkins International plc, MWH), 31 December 2004, updated 2007.
6. *Project Appraisal Document on a Proposed International Development Association Grant in the Amount of SDR 5.8 million (US$ 8.5 million equivalent) to the United Nations Interim Administration Mission in Kosovo for the Benefit of Kosovo for a Lignite Power Technical Assistance Project*, World Bank, September 2006.
7. *Project Appraisal Document on a Proposed International Development Association Grant in the Amount of SDR 3.8 million (US$ 5.5 million equivalent) to the United Nations Interim Administration Mission in Kosovo for the Benefit of Kosovo for an Energy Sector Clean-up and Land Reclamation Project*, World Bank, May 2006.
8. *Studies to support the development of new generation capacities and related transmission—Kosovo UNMIK*, prepared by Pöyry Consortium (Pöyry, Cesi, Terna, and Decon), August 2007.
9. *Study for Decommissioning of Kosovo-A Power Plant*, Final Report, prepared by Evonik Industries, 15 March 2010.
10. *Economic and Technical Feasibility of the Rehabilitation of Units of Kosovo A Power Plant*, European Agency for Reconstruction Contract 04KOS01/03/007, prepared by A3i Consortium (Application Européenne de Technologie et de Services, AEA Technology plc, Allplan, Iberdrola S.A.), Task Report, September 2005.
11. *Scoping Statement for Environmental Assessment for Rehabilitation of Thermal Power Plant Kosovo B*, Final Report, prepared by Advanced Engineering Associates International et al, 6 April 2010.
12. *Kosova ―B‖ Investment Requirements and Rehabilitation Feasibility Study*, prepared by PA Government Services for USAID, August 2010.
13. *Improvement of District Heating in Kosovo*, KfW. February, 2009.
14. *Development and Climate Change, A Strategic Framework for the World Bank Group: Technical Report*, World Bank Group, January 2009.
15. 2010 Updated Kosovo Energy Market Model
16. Renewable Energy Options Study from the LPTAP Appraisal, 2006 Procurement Plan.
17. EC investigation of converting Kosovo B into a combined heat and power plant.
18. Study for the Zhur Hydro Power Plant (May 2009).
19. Wind feasibility study
20. Low-carbon growth strategy for the energy sector in Kosovo. To be completed by year-end 2011.

Subject: Kosovo Project - Request for documents!
From: Nezir Sinani <nezir.sinani@kipred.net>
Date: Fri, 9 Sep 2011 12:16:53 -0400
To: jarmitage@worldbank.org, khuber@worldbank.org, dwetzel@worldbank.org, rlenton@worldbank.org
CC: tahlers@worldbank.org, canstey@worldbank.org, plallas@worldbank.org, plehouerou@worldbank.org

Dear all,

please see attached!

I thank you for your cooperation and understanding.

Warm regards,
Nezir

--
Nezir SINANI
Researcher/Analyst
Kosovar Institute for Policy Research and Development (KIPRED)

Rexhep Mala Str. No.5A
10 000, Prishtina, Kosovo
Tel/Fax: +381 38 227 778
Mobile: +12026740024

http://www.kipred.net

Kosovar CSOs Request for Documents.pdf	**Content-Type:** application/pdf **Content-Encoding:** base64

Kosovar Institute for Policy Research and Development (KIPRED), Institute for Advanced Studies (GAP), Balkan Investigative Reporting Network (BIRN), Forum for Civic Initiative (FCI) Youth Initiative for Human Rights (YIHR), Internews Kosova, DokuFest, Kosovo 2.0, Prishtina Institute for Political Studies (PIPS), International Crisis Group (ICG)

To: Ms. Jane Armitage

Country Director and Regional Coordinator for South East Europe, the World Bank

Cc: Mr. Konstantin Huber

Executive Director, Kosovo

Ms. Deborah Wetzel,

Chief of Staff, President's Office

Mr. Roberto Lenton

Inspection Panel Chair

Date: September 9, 2011

Subject: Request for online publication of core studies and/or documents related to the work of Expert Panel for Kosovo Project

Dear Ms. Armitage,

As you are aware, the World Bank has published a few weeks ago the Project Information Document for the Kosovo power plant project. The PID was issued to the public together with the Terms of References for an Expert Panel and the names of the members of the Panel itself. The ToR has an attachment that includes a number of documents that the Panel has been advised to consult whilst they do the screening of the six criteria for coal projects of the Strategic Framework for Development and Climate Change. The list of these documents is included in the Attachment 2 of the ToR.

The World Bank has not published these documents. Kosovar Civil Society has been trying to get hold of some of the documents from different sources, including the Department of the World Bank that manages this process. So far we have been unable to do so and we have not received any reply from the WB Departments involved. The lack of cooperation and

transparency is seriously hindering our ability to constructively cooperate and provide our comments on the work of the World Bank.

Furthermore, PID stresses out that the World Bank is working on a study which will provide the Expert Panel with the World Bank's overview of the Least Cost Supply Option for Kosovo. For many weeks we have been requesting officially from the World Bank to receive the ToR for this work, as the study itself is not yet available as far as we know, and again did not receive the document itself from the World Bank. This is a significant part for the work of the Panel and we need to read what this study will cover.

The future of our country is at stake and we strongly demand that the World Bank make available all the documents that are being used to take important decisions for our lives. We urge you to request from the specific departments of the Bank involved in the Kosovo project to make immediately public all the documents requested above and any others produced in the future and that will be used for the purposes of Kosovo project.

We the undersigned thank you in advance for your understanding and support and look forward to your cooperation.

Best regards

Agron Demi – GAP Institute for Advanced Studies, Krenar Gashi - Kosovar Institute for Policy Research and Development (KIPRED), Jeta Xharra - Balkan Investigative Reporting Network (BIRN), Ferdinand Nikolla – Forum for Civic Initiative (FIQ), Aliriza Arenliu – DokuFest, Besa Luci – Kosovo 2.0, Raba Gjoshi – Youth Initiative for Human Rights (YIHR), Leonora Kryeziu – Prishtina Institute for Political Studies (PIPS), Faik Ispahiu – Internews Kosova, Naim Rashiti - International Crisis Group (ICG)

Subject: Re: Fw: Kosovo Project - Request for documents!
From: Nezir Sinani <nezir.sinani@kipred.net>
Date: Thu, 15 Sep 2011 16:08:33 -0400
To: Mgulati@worldbank.org
CC: Jarmitage@worldbank.org, khuber@worldbank.org, Dwetzel@worldbank.org, rlenton@worldbank.org, Tahlers@worldbank.org, Canstey@worldbank.org, plallas@worldbank.org, Plehouerou@worldbank.org, Krenar Gashi <krenar.gashi@kipred.net>, Agron Demi <agron@institutigap.org>, Ferdinand Nikolla <ferdinand@fiq-fci.org>

Dear Mr. Gulati,

I hope this e-mail finds you well. We are delighted to see the WB publish more documents related to the Expert Panel ToR documents. We thank you for the responsiveness. As of now the following documents are still missing and have not yet been published: documents numbered 11, 12, 17, 28 and 29. The following documents are not public according to what we read in the site: documents numbered 2, 21, 22, 24 and 25. We urge you to provide them online at the earliest time possible. Their provision to the public is of huge importance. By not having all the documents public to what has been provided to the Panel, serious doubts arise about the integrity of the decision the Panel will take and also dubs the project as non-transparent.

Furthermore, we would like to stress out once again our request to receive a copy of the ToR for Least Cost Supply Options review that you are undertaking and which is of huge importance for the Panel work.

We thank you in advance for your support and understanding.

Regards,
Nezir

On Mon, Sep 12, 2011 at 10:57 AM, Nezir Sinani <nezir.sinani@kipred.net> wrote:

> Dear Mr. Gulati,
>
> thank you for your email. To start with, we did not copy you in the email sent to your colleagues as in the past we did not receive any reply from your side on a few requests we had sent to you and your colleague Scott Sinclair. I am forwarding one of those emails below for the information of all people copied in this email (I can send more of those to everyone

in case you need to see them). We will be happy to copy you in the future if you will be replying to them.

Secondly and most importantly, I do hope that you will visit yourself the WB web site link you have provided to check for yourself what is available there and what is not. For your information, out of 29 listed documents on annex 2 of the ToR for the Expert Panel, only seven documents are availabe, i.e. documents numbered 1, 4, 8, 14, 15, 19 and 20. Document number 5 is only partly availabe, i.e. the version published in 2004, whilst the updated version of 2007 is missing. Documents 6 and 7 are broken links. Whilst documents 2, 21, 24 and 25 are classified and not provided to the public. The largest portion of them are not available at all (i.e. documents numbered 3, 9, 10, 11, 12 ,13, 16, 17, 18, 22, 23, 26, 27, 28 and 29). This can be verified by you and anyone copied in this email. Hence, there is no erroneous assertion of whatsoever done in the letter sent to you last week and we still stand behind every single word written on it. Once again, we strongly request that you make available every single document listed on this annex to the public on the WB web-site asap.

Please let me repeat another time our request for acces to the ToR for the Least Cost Supply Option study that you are doing now for the needs of the Expert Panel. This document is of huge importance and should be made available to the kosovar public at this stage.

By not making all these documents available, the WB is limiting our ability to work with the stakeholders involved in this project. This fact makes the project highly non-transparent. Therefore, we urge you to publish all the documents immediately and before the Panel finishes its work, so that we can provide our comments on these reports in due time.

We remain commited to working with you constructively, as has always been the case. I thank you for your understanding.

Best regards,
Nezir

On Fri, Sep 9, 2011 at 6:39 PM, <Mgulati@worldbank.org> wrote:

> Dear Mr. Sinani;
>
> I have been forwarded your attached letter. We will respond to your letter shortly. However, I would like to correct an erroneous assertion in your letter that the documents provided to the Expert Panel have not been made public or made available.
>
> In our most recent meeting with you and your colleagues in the World Bank office in Washington, we had informed you and your colleagues that the Terms of Reference of the Panel were posted on the World Bank's Kosovo country website and the related documents mentioned in the Attachment 2 to the TOR had links to those documents and that these could be downloaded. We had also mentioned this to

several CSOs who met the Expert Panel on August 26, 2011 in Pristina that these documents were available on the Bank's website (please see the link below). A copy of the TORs and the Attachment were also distributed to the CSOs who participated (including GAP, KIPRED, and FIQ whose names are mentioned in your letter). Most of these documents have been available on the website of Government of Kosovo's project website for a long time (please see the link below).

Please let us know if you have any problem in downloading these documents.

World Bank website

http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTENERGY2/0,,contentMDK:22970700~pagePK:210058~piPK:210062~theSitePK:4114200,00.html

Kosova e Re Power Project website

http://www.lignitepower.com/index.php?option=com_content&view=category&layout=blog&id=39&Itemid=105&lang=en

We hope you would inform other CSOs whose names are mentioned in your letter.

We remain committed to growth and development of Kosovo and for meaningful consultation and participation of all stakeholders.

Please do not hesitate to contact us for any further information.

Regards

Mohinder Gulati
Country Sector Coordinator, Western Balkans
Europe and Central Asia Region, World Bank
1818 H Street, Washington DC, USA
Phone# 1-202-473-3211

From:	Nezir Sinani <nezir.sinani@kipred.net>
To:	jarmitage@worldbank.org, khuber@worldbank.org, dwetzel@worldbank.org, rlenton@worldbank.org
Cc:	tahlers@worldbank.org, canstey@worldbank.org, plallas@worldbank.org, plehouerou@worldbank.org
Date:	09/09/2011 12:16 PM
Subject:	Kosovo Project - Request for documents!

Dear all,

please see attached!

I thank you for your cooperation and understanding.

Warm regards,
Nezir

--
Nezir SINANI
Researcher/Analyst
Kosovar Institute for Policy Research and Development (KIPRED)

Rexhep Mala Str. No.5A
10 000, Prishtina, Kosovo
Tel/Fax: +381 38 227 778
Mobile: +12026740024

http://www.kipred.net

(See attached file: Kosovar CSOs Request for Documents.pdf)

--
Nezir SINANI
Researcher/Analyst
Kosovar Institute for Policy Research and Development (KIPRED)

Rexhep Mala Str. No.5A
10 000, Prishtina, Kosovo
Tel/Fax: +381 38 227 778
Mobile: +12026740024

http://www.kipred.net

from Nezir Sinani nezir.sinani@kipred.net
to Scott Sinclair <ssinclair@worldbank.org> hide details Sep 6 (5 days ago)
Mgulati@worldbank.org,
cc tahlers@worldbank.org,

Chad Dobson <cdobson@bicusa.org>,
akircher1@worldbank.org,
kschrader@worldbank.org

date Tue, Sep 6, 2011 at 5:04 PM

subject Study no. 5!

mailed-by kipred.net

Dear Scott,

I hope this e-mail finds you well. I was wondering if you could help us get a copy of the study no. 5 (the original and the updated one) in the attached Annex of the ToR you published for the Expert Panel. I thank you in advance for your support.

Regards,
Nezir

--
Nezir SINANI
Researcher/Analyst
Kosovar Institute for Policy Research and Development (KIPRED)

Rexhep Mala Str. No.5A
10 000, Prishtina, Kosovo
Tel/Fax: +381 38 227 778
Mobile: +12026740024

http://www.kipred.net

Subject: Kosovo follow-up!
From: Nezir Sinani <nezir.sinani@kipred.net>
Date: Thu, 29 Sep 2011 11:32:10 -0400
To: jarmitage@worldbank.org
CC: akircher1@worldbank.org, Mgulati@worldbank.org, Chad Dobson <cdobson@bicusa.org>

Dear Jane,

it was a great pleasure meeting you last week and discussing the Kosovar project. In line with what was discussed, I wanted to know what is the latest on the ToR for the Least cost supply study that the Bank is doing for the Expert Panel needs. We do look forward to having a copy of it and if we can help anyhow your work to make it available sooner to us, please let us know.

On a second note, we got some information that the Bank is going to present the ESKOM findings of the IP in Kosovo. How accurate is this information? We would certainly like to be part of the discussion on this matter there, in case such a meeting will take place. Related to this sort of interaction, we do still believe that it would be very useful if you could produce a schedule of different public discussions in Kosovo you would find useful to be held whilst the project is developed. We certainly believe that this would help the Bank keep everyone involved and informed about the project. Would be very happy to support this activity of yours in Kosovo through our coalition of CSOs.

I thank you in advance for your understanding and cooperation.

Warm regards,
Nezir

--
Nezir SINANI
Researcher/Analyst
Kosovar Institute for Policy Research and Development (KIPRED)

Rexhep Mala Str. No.5A
10 000, Prishtina, Kosovo
Tel/Fax: +381 38 227 778
Mobile: +12026740024

http://www.kipred.net

KIPRED | FIQ | GAP Institute

Energy Projects in Kosovo

September, 2011
Prishtina, Kosovo

Prepared by: Nezir Sinani and Agron Demi

Edited by: Krenar Gashi

Published by

Kosovar Institute for Policy Research and Development

Forum for Civic Initiatives

GAP Institute

TABLE OF CONTENT

ABBREVIATIONS

USAID	Unites States Agency for International Development
MW	Mega watts
KIPRED	Kosovar Institute for Policy Research and Development
GAP	Institute for Advanced Studies
BIRN	Balkan Investigative Reporting Network
FIQ	Forum for Civic Initiatives
YIHR	Youth Initiative for Human Rights
PIPS	Prishtina Institute for Political Studies
ICG	International Crisis Group
KEK	Kosovo Energy Corporation
WB	The World Bank
LPTAP	Lignite Power Technical Assistance Team
U.S.	United States
SRSG	Special Representative of Secretary General
PSC	Project Steering Committee
MEM	Ministry of Energy and Mines
MEF	Ministry of Economy and Finance
MESP	Ministry of Environment and Spatial Planning
MLSW	Ministry of Labor and Social Welfare
ERO	Energy Regulatory Office
ICMM	Independent Commission for Mines and Minerals
UNMIK	United Nations Mission in Kosovo
ECLO	European Commission Liaison Office
ICO	International Civilian Office
KfW	German Development Bank
IBRD	International Bank for Reconstruction and Development
IDA	International Development Agency
IFC	International Finance Corporation
KEDS	Kosovar Electricity Distribution and Supply Company
NGO	Non-governmental Organization
LDK	Kosovo Democratic League
AAK	Alliance for Kosovo's Future
PDK	Kosovo Democratic Party
PIU	Project Implementation Unit
CEZ	Czech Republic Electricity Producer
GWh	Giga watt hours
EU	European Union

EXECUTIVE SUMMARY

The Kosovo government, with the support of the World Bank and USAID, is determined to privatize the Electricity Distribution and Supply Company, the Kosova B thermal power plant, and lignite capacity, and is committed to going ahead with the construction of the Kosova e Re power plant. All these projects are being implemented without necessary studies on alternative sources of energy, reduction of commercial and technical losses, and improvement in energy-efficiency measures.

Any country seeking entry into the European Union must address several key issues in developing its energy strategy, including the well-being of its citizens, improvement in quality of life, and safeguarding environmental protection. Despite the infusion by Kosovar and international institutions of more than 1 billion euros into the country's energy sector over the past decade, these quality-of-life and environmental issues have not been measurably advanced. The European Union acquis requires would-be member countries to meet the EU's latest energy policy objectives, which include protection of the environment as a key element. However, the Kosovar government and Assembly have failed to address the EU requirements in the current national energy strategy, and a plan for Kosovo's actions in this regard is lacking. Simply put, the problems of the country's energy sector are far from being resolved.

In 2002 UNMIK signed the "Athens Memorandum," which led to the establishment of the Kosovar energy community. It was expected by all that this event would lead to the formation of a coherent energy strategy that would be congruent with EU requirements. The Kosovar government, being the only stakeholder in the country's energy sector, declared its commitment to moving ahead with the construction of the New Kosova (Kosova e Re) power plant. Yet significant problems still hinder that progress. Among these problems are a lack of well-researched strategies, rampant environmental pollution, sluggish economic development, and a lack of transparency on the part of local and international agencies and representatives.

This research paper presents a thorough analysis of the perspectives and roles of the main stakeholders that influence Kosovo's energy sector. It goes on to analyze the country's energy strategy, the energy market model, and the privatization process. It concludes by addressing some of the open issues of energy efficiency and alternative energy sources.

Those involved in the development of Kosovo's energy sector have yet to show any credible results. The Energy Strategy, drafted by the government in cooperation with the World Bank, USAID, the European Commission, and others, fails to address quality-of-life issues. Instead, it focuses solely on lignite power generation capacities. The whole process of developing new generation and distribution capacities has been marred by lack of transparency, discordance between international agencies and powers, and a failure to consult with civil society organizations.

Lignite power generation is the highest and only priority – The Kosovar government is rushing through the process of privatization because of the budgetary crisis it is facing. This process races on even in the face of the government's failure to pursue any studies on alternative sources of energy and to implement energy efficiency measures. As one might expect, the government's partners in the energy sector have different priorities, and therefore they are offering and pursuing different (and often conflicting) solutions. At the governmental level, questions are seemingly not being asked, let alone answered. These include the following: Beyond the production of energy, what level of environmental

standards should the government be supporting? Should the Kosovar government set energy efficiency as a higher priority than increased energy production? How do the different approaches affect citizens' well-being? Will they even meet the country's energy demands? These are the questions that citizens of Kosovo, along with various local and international stakeholders, are asking.

The government finds the World Bank's approach very appealing, with its calls for a new lignite power plant. But there was no consideration to promote alternative sources of energy prior to the promotion of lignite. Complicating all this is the fact that the International Finance Corporation has not made public the business plan for the privatization of the Kosovar Electricity Distribution and Supply Company (KEDS), and USAID consultants, unqualified as they are, have ended up acting as the decision makers.

Failure to address alternative energy sources in the energy strategy – Kosovo's energy strategies have narrowly and solely focused on lignite as the source for the production of electricity. Consequently, the new Kosovo's National Energy Strategy covering the period from 2009 to 2018 cannot be described as anything other than a lignite strategy. It includes no study on alternative forms of energy and no plans for future regional energy exchange. Further, it has no plans which would allow for the achievement of EU goal to reduce CO2 emissions by 20 percent, no plans to improve energy efficiency by 20 percent, and no plans to use renewable resources for 20 percent of electricity production by 2020. The Kosovo Assembly and the appropriate parliamentary committee should insist that the government redraft a new strategy taking the foregoing into consideration.

A market model that creates monopoly – The Energy Market Model developed by the government in 2010 has never been made public, and the privatization of generation and distribution capacities is being carried out hastily in order to avoid the budgetary crisis the government is expecting. The privatization of distribution is expected to be complete by the end of 2011, and of generation by early 2012.

Lack of vision translated into an ineffective privatization process – By insisting on utilizing coal to meet the country's energy needs, Kosovo seems to be falling away from fulfilling stated EU requirements that would otherwise pave its way for future entry. The process of privatizing the distribution and generation sectors was initiated years ago but has never come to fruition. So far, the failure of the government to deal with this issue in a timely fashion has led some credible foreign investors, such as RWE Energy and CEZ Group, to withdraw from the process. Currently, the government has prequalified some companies that lack proven management skills for projects of this size, and those choices do not bode well for the country's efforts necessary to meet EU environmental standards. Because neighboring countries have engaged competent Western companies in their pursuit of sound energy strategies and therefore will certainly surpass Kosovo's meager efforts, Kosovo will suffer the consequences with regard to stifled technology advancement and fiercer competition.

Open issues that need to be considered while addressing the strategy and privatization – Even though Kosovo's Energy Strategy has failed to attract regional cooperation, the country has already begun investing in a 400 kV line with Albania, which will create better opportunities for cooperation and will secure a more reliable power supply. Investment in a grid connecting Kosovo with Albania is needed. Yet even if such a project were to commence today, the energy grid within Kosovo is so poorly maintained that losses from both grids would constitute up to 43 percent of the energy produced. That calculates to be over a hundred million euros annually. These inefficiencies result in great technical and commercial losses

for Kosovo Energy Corporation. The inefficient use of energy can be observed in households, where 35 percent of the energy consumed is for heating, testifying to the fact that residential buildings have poor insulation and require immediate remedy. The Kosovo Action Plan for Energy Efficiency 2010–2018 predicts an increase of 9 percent in energy efficiency by the end of 2018. This figure is still considerably below the 20 percent EU requirement.

Conclusions

KIPRED, GAP and FIQ point to the need to modify Kosovo's energy strategy in a more transparent manner, one that results in a plan that serves the interests of the citizens and reflects EU standards on the environment. The strategy should be based on two foundational premises:

1. The process must be transparent – The stakeholders (amongst others the World Bank) should ensure the transparency of the privatization process of public enterprises in Kosovo, especially the privatization of generation and distribution of electrical energy and energy market modeling. This can be done by conducting public discussions and incorporating comments from these forums into policy. This would ensure competence and accountability on behalf of all companies and entities involved.

2. The process must effectively and measurably result in the use of alternative sources of energy and energy-efficient mechanisms – To begin with, the Energy Strategy 2009–2018 should be updated to include thorough studies on alternative sources of energy. Next, the Action Plan on Energy Efficiency 2010–2018 should be revised to be in line with the EU criterion of a 20 percent increase in energy efficiency by 2020. Efforts must also be made to decrease technical and commercial energy losses and improve the insulation in residential buildings throughout Kosovo.

1. INTRODUCTION

The energy sector is very problematic in Kosovo. Despite local and international investment, Kosovo lives in a continual energy crisis characterized by pollution-producing lignite power generation, an old and inefficient transmission and distribution grid, and high technical and commercial losses. Long-promised energy-efficiency measures have not been established. Because of this, demand for electricity in the country is artificially high, and the citizens of Kosovo continue to face energy blackouts on a regular basis.

These power outages, an everyday occurrence in Kosovo since 1999, are one of the main obstacles to the country's economic development. Due to the lack of a reliable energy supply, many planned investments in Kosovo never materialize, and existing industry is at risk.

The current facilities for energy generation, especially the Kosova A thermal power plant, remain the biggest polluters in Kosovo. Environmental damage is caused not only by the ash released into the atmosphere, which has led to fatalities among the population living around the thermal power plants, but also by carbon dioxide emissions, the exploitation of coal, and the industrial use of water, a scarce resource in Kosovo.

As part of its efforts to overcome the energy crisis, Kosovo has compiled a National Strategy on Energy, which the Kosovo Assembly adopted in April 1st, 2010. Unfortunately, this strategy focuses mainly on boosting power generation capacity by increasing the mining of lignite, failing to sufficiently consider the issues of energy efficiency or alternative sources of energy production.

In this study, prepared by three research institutes,[1] the main issues of the National Strategy on the energy sector will be analyzed, with a focus on certain critical problems that are obvious within the National Strategy. Our goal is to promote development of the energy sector while considering the well-being and health of Kosovo's citizens, improving of the quality of life in the country, safeguarding environmental protection, and promoting Kosovo as an attractive country for foreign investment.

This study, which has been supported by a large network of non-governmental organizations in Kosovo,[2] identifies the strategic areas of the energy sector, analyses the Kosovo government's actions as well as those of other stakeholders, and puts forward concrete recommendations on how current developments in the sector can be improved in order to move into line with European Commission standards.

[1] Kosovar Institute for Policy Research and Development (KIPRED), GAP Institute (GAP), and the Forum for Civic Initiatives (FIQ).

[2] This study was also supported by Balkan Investigative Reporting Network (BIRN), Youth Initiative for Human Rights (YIHR), Internews Kosova, DokuFest, Kosovo 2.0, Prishtina Institute for Political Studies (PIPS), International Crisis Group (ICG)

2. A BRIEF HISTORY

The Kosovo energy system has a history spanning several decades. In 1922 Kosovo inaugurated its energy development by opening its first underground coal mine. That mine provided coal until 1958, when surface digging of lignite began in the Mirash mine. Today the Mirash mine, the Bardh mine, and the Sibovc South West mine are Kosovo's main sources of coal for energy, supporting a total annual production of approximately 7 million tons of lignite. By 1960, the first coal-based thermal power plant was under construction. This was the Kosova A thermal power plant, whose first unit had an installed capacity of 65 MW. Kosova A had constructed four other units by 1975, reaching a total installed capacity of 800 MW. Between 1977 and 1984, the second thermal power plant, Kosova B, was built, with a total capacity of 678 MW from two generating units.

For a long time, Kosovo participated in the energy system of the former Yugoslavia. During that period, energy production in Kosovo was concentrated on lignite-based production (thermo), with a small contribution from water-based production (hydro). Kosovo's own energy supply came both from the Kosova thermal power plants and from other sources of energy production located throughout the territory of the former Yugoslavia.[3]

In the '90s, during Yugoslavia's dissolution, the energy system of the country received very little maintenance or investment. From 1989 to 1999 most local experts were unable to work. However, in mid-June 1999, when the last war with Serbia ended, Albanian workers started coming back to Kosovo and were able to return to their jobs. After a decade of neglect, the energy sector received investments first from international and then from local institutions in order to revive the country's energy capacity.

In the postwar period the power sector received a large infusion of international aid. While accurate figures on this are not available, it is estimated that more than 1 billion Euros have been invested since 1999. However, even these funds have not been sufficient to resolve the problems of the country's energy sector.

From 1999 to 2006 the Kosovo Trust Agency held the shares of the main energy company of the country, KEK J.S.C., and managed the energy sector. During this time, the sector was under partial supervision by local managers, but most of its management was conducted by international companies. Companies that intervened at different times to manage KEK included Mott McDonald (UK), Électricité de France (France), SwedPower (Sweden), and ESB International (Ireland). A number of locals have held managerial positions since 2006. Despite the investment and aid coming from abroad and from home, problems and difficulties were never completely overcome.

Today, the Kosovo government remains the main and only shareholder in its country's energy sector. In cooperation with other stakeholders such as the World Bank (WB), the United States Agency for International Development (USAID), the European Council, and other actors, the government prepared the Kosovo National Strategy on Energy 2009–2018, with the objectives of overcoming chronic problems with the power supply and meeting the demands of local consumers. This strategy focuses mainly on developing the country's energy sector by supporting projects for lignite-based energy generation, on and raising the level of investments with private capital, specifically through the privatization of this sector.

[3] Kosovo Energy Corporation J.S.C. (http://www.kek-energy.com).

3. INVOLVED ACTORS

From 1999 to 2006 the privatization of socially owned enterprises was led by international institutions, but today this process is handled by Kosovo's leaders, with the support of important financial and political international institutions.

Most of the civil organizations in Kosovo support the process of privatization as a concept, with the understanding that private investment in major capital projects is crucial for economic development. However, experiments in privatization so far have shown that local institutions, even when supported by international institutions and organizations, have not managed this process appropriately. Therefore, even nine years after the initiation of the privatization process, there is still no privatization success story in Kosovo and the country has not introduced credible international companies into the market.

3.1. Government of the Republic of Kosovo

All central public enterprises are currently the property of the Republic of Kosovo and are managed by the Kosovo government. The Kosovo Energy Corporation, the Transmission System and Market Operator are central public enterprises, with the government the sole shareholder. The Kosovo government is the chair of two government commissions on privatization: the Project Steering Committee, which is responsible for the privatization of power generation,[4] and the Commission for the Privatization of Distribution and Supply.[5]

According to the Law on Public Enterprises,[6] the shares of a central public enterprise can be sold if the government adopts a written decision authorizing the Government Commission for privatization to proceed with the tendering process and the sale of shares, on the condition that this decision is adopted by a simple majority vote in the Kosovo Assembly.[7] The sale of public enterprise shares has been implemented within several countries of the region in previous years, with the aim of realizing more efficient management and increasing competition due to private capital involvement. According to the Kosovo government, with the adoption of the Energy Strategy 2009–2018 the Kosovo Parliament has given permission to the government to proceed with the privatization of power generation and distribution. However, the Energy Strategy does not specify what percentage of shares may or will be sold.[8] The Kosovo Assembly has yet to discuss this topic and provide clarity.

---

[4] Executive Decision no. 2006/6 reached by the Special Representative of the Secretary General (SRSG) on the 17th of March 17, 2006.

[5] Government Decision no. 08/39, of the 8th of October 8, 2008.

[6] Law no. 03/L-087.

[7] Article 9.1 of Law no. 03/L-087 on Public Enterprises.

[8] The strategy for the privatization of KEK, which was discussed by the Kosovo Assembly in 2010, includes the option for the sale of shares.

3.2. Role of the World Bank

With the objective of creating a more suitable environment for private investors to develop the quarrying of lignite and the construction of new energy production capacity based on lignite, the World Bank Board of Executive Directors approved the "Lignite Power Technical Assistance Project (LPTAP)" on September 13, 2006, for which it initially allocated 8.5 million U.S. dollars.

This project was initially categorized as a B category project, which implies that it does not involve significant environmental issues. As such, from its initial stages the project has not focused on the critical environmental issues that accompany the development of the new power plant project named "Kosova e Re", which foresees the opening of a new lignite mine and construction of a new lignite based power plant. The consequences of this inaccurate categorization have been negative, as no attention has been paid to assessing the environmental effects and overall coal costs related to the opening of the plant or its new lignite mine.

In order to ensure effective implementation of the LPTAP project, former SRSG Soren Jesen-Petersen established the Project Steering Committee (PSC).[9] According to the executive decision, the Project Steering Committee comprised the prime minister, the minister of energy and mines (MEM), the minister of environment and spatial planning (MESP), the minister of economy and finance (MEF), the minister of labor and social welfare (MLSW), the Energy Regulatory Office (ERO), the Independent Commission for Mines and Minerals (ICMM), the Kosovo Trust Agency (replaced by the Kosovo Privatization Agency), the Office of SRSG, and the Head of UNMIK Pillar IV. The latter two have not been members since Kosovo declared independence in 2008.

The composition of the PSC has recently shifted with the change in the national administration. The former chairperson of the Project Steering Committee has made allegations against transaction advisers and certain monitoring members of the committee, such as the World Bank and USAID.[10] This conflict between this former chairperson and other actors involved is further evidence of the controversy that surrounds this project, and brings into question whether the project as currently envisioned is the best solution for Kosovo.

Current members of the PSC include monitors from the donor community and institutions active in Kosovo: the World Bank, USAID, the European Commission Liaison Office (ECLO), the International Civilian Office (ICO), and the KfW banking group. **There was no place reserved in this committee for members of NGOs, not even as monitors. Furthermore, all the decisive documents for the project have remained unpublished and are unavailable to the public or to NGO's for review.** The implication is that from the outset the project was not designed to be transparent. The European Parliament has raised the issue of NGO participation in these important activities[11] with the Kosovo Parliament, requesting the Kosovar institutions to allow more significant participation of these organizations.

Globally, the World Bank is currently looking at its own strategy on energy. Under the

[9] Executive Decision no. 2006/6.

[10] Interview of the MP Justina Pula in the "Koha Ditore" newspaper on the 25th and 26th of April 25–26, 2011.

[11] The conclusions of the interparliamentary meeting between the EU Parliament and Kosovo Assembly May 19–20.

proposed changes, the World Bank will continue to act as a supporter of energy projects but will not invest in coal-based energy projects in member states that are part of the International Bank for Reconstruction and Development (IBRD) or in countries classified as *"IDA-blend."*[12] It will support coal-based energy projects in member countries of the International Development Agency (IDA), but only when all other alternatives have been exhausted.

Kosovo, an IDA member, is eligible to receive technical and financial assistance for development of lignite energy capacities. **However, according to the Criteria for Screening of Coal Projects under the Strategic Framework for Development and Climate Change of the World Bank, an investment of the World Bank in a coal-based project can happen only if all other alternative forms of energy have been taken into consideration, such as hydro, solar, wind, and geothermal energy, and other very specific measures are taken to address energy accountability. According to its own policy regulations, the World Bank must conduct adequate studies into each of these possibilities before engaging in a project based on coal**. These are the criteria for when a coal-based project can be considered:

1. There is demonstrated developmental impact of the project, including improving overall energy security, reducing power shortage, or increasing access for the poor
2. Assistance is being provided to identify and prepare low-carbon projects
3. Energy sources are optimized, looking at the possibility of meeting the country's needs through energy efficiency (both supply and demand) and conservation
4. After full consideration of variable alternatives to the least cost (including environmental externalities) options, and when the additional financing from donors for thir incremental cost is not available
5. Coal projects will be designed to use the best appropriate available technology to allow for high efficiency and, therefore, lower GHG emissions intensity
6. An approach to incorporate environmental externalities in project analysis will be developed.

In Kosovo, the World Bank has not followed these steps. The WB project in Kosovo is oriented almost exclusively toward lignite energy. This is made clear by the very title of the project—the Lignite Power Technical Assistance Project (LPTAP)—and by the name of its WB-created site on the Internet, which is "LignitePower.com."[13] The WB, in cooperation with the Kosovo government, is pushing for the privatization of energy generation without carrying out other necessary studies and before addressing the issue of energy accountability. There are as of now no WB studies on alternative energy sources, technical and commercial losses have not yet been tackled, energy efficiency is not a priority, and very little is being done in terms of developing projects that aim to address issues related to this field. It is not known what kind of technology will be used to reduce the carbon emissions from coal burning, and there has been no study or calculation of the cost-benefit ratio of this project in comparison to other possible projects.

[12] The "blend" category is used to classify countries that are eligible for IDA resources on the basis of per capita income but also have limited creditworthiness to borrow from the IBRD.
[13] http://www.lignitepower.com.

Furthermore, WB has not provided any information related to the costs that Kosovo will have to pay for the Carbon emissions when it joins EU. This calculation has a significant economic impact. Being aware of the increasing tariffs EU countries will be paying for carbon emissions, the WB should at least provide different scenarios that account for this cost. Besides it, this then should be scaled with other projects that could be developed in order to provide an accurate overview of what projects would cost the Kosovar consumers less.

Therefore, before proceeding with the privatization of lignite and generating capacity, the WB should conduct the necessary studies on alternative energy and should invest in energy-efficiency measures and in reducing technical and commercial losses, all in line with its Operational Policies and its Climate Change Approach (Strategy).

3.3. International Finance Corporation (IFC)

The IFC is involved in the process of the privatization of the Kosovar Electricity Distribution and Supply Company (KEDS). Its role is to advise the Kosovo government on privatization options for the company. The IFC has recently submitted to the government a business plan that contains different scenarios under which KEDS can be privatized. This plan has not been discussed with NGO's or with the Kosovar public. The document itself contains very important information on what the future electricity tariffs will be for the consumers, and on how the government will be involved in terms of providing subsidies to the private company to cover commercial losses or in terms of necessary power imports, all of which affect the taxpayers and add to the final electricity tariff consumers will have to pay. Furthermore, this document contains important information relating to the Energy Market Model of Kosovo.

An area that is left out of discussion in this document[14] is the issue of labor. This is of significance to the employees of KEK. Labor unions representing employees of the company have not yet been contacted by the IFC or the government to discuss the fate of current employees, in spite of their regular requests to meet with involved stakeholders and receive information on what is intended. According to USAID, which is also involved in the process through its advisers, up to two-thirds of current employees will not be retained within the new privatized company. If this is the case, the IFC has failed to comply with its own standards for the implementation of such projects.[15]

3.4. European Commission and the Energy Community

In 2002 the UN Mission in Kosovo (UNMIK) signed a Memorandum of Understanding for the Establishment of the Joint Energy Market in Southeastern Europe and for its integration into the European energy market, which is known as the "Athens Memorandum." This led to the establishment of the Energy Community, whose treaty was again signed by UNMIK on behalf of Kosovo on October 25, 2005.[16]

---

[14] According to Bernard Atlan, head of the IFC team in the KEDS project.

[15] Performance and Labor Standards of the IFC.

[16] http://www.energy-community.org/portal/page/portal/ENC_HOME.

Under the Energy Community Treaty guidelines, Kosovo began the restructuring of KEK and the establishment of regulatory authorities. The restructuring process began in 2005,[17] and continued in 2008 under the new government.[18] The first stage of this process involved separating seven nonessential business units from the corporation and spinning them off as socially owned companies under the appropriate contractual terms. Later, coal production, energy generation, distribution, and sale were also spun off. On July 1, 2006, the public company for electrical energy transmission was established.

The process of spinning off the energy pyramid continued in 2008, with the separation of coal and energy production from its distribution and sale. This resulted in the establishment of a new public company for energy distribution and supply, the Kosovo Energy Distribution and Supply Company J.S.C. (KEDS), the shares of which were also held by the Kosovo government. The Kosovo government then decided to sell the shares of this new enterprise through a tender procedure.[19]

The European Commission Liaison Office (ECLO) is involved in the energy sector in Kosovo through the Secretariat of the Energy Community Treaty. The Secretariat represents the ECLO in meetings with commissions on the privatization of energy sources. The ECLO has expressed its concerns with the market model that is being discussed. It has concerns about both the possible limitations on competition and the environment, specifically in terms of implementation of EU Directives on the environment.

3.5. USAID

USAID bases its involvement in Kosovo on three main pillars: economic growth, democracy and governance, and youth and education. USAID has a stake in the Kosovo energy sector through its economic growth pillar. There are three main areas of USAID involvement in Kosovo:

1. Encouragement of private-sector economic growth
2. Strengthening of the economic institutions responsible for ensuring fiscal sustainability
3. Reliable energy supply

The main idea behind the privatization of the distribution and supply businesses came from USAID consultants in KEK J.S.C. These consultants were involved in the daily work of the corporation after 2006. Initially, their involvement frequently exceeded the terms of their contractual obligations.[20] Reference is made to their involvement in the tender process of the corporation, acting as bid evaluators, and their acting in a management capacity in specific departments (especially Auditing), among other activities. USAID is directly involved in the committee for the privatization of the Distribution and Supply Company.[21] Additionally, USAID cooperates and assists the World Bank in the Technical Assistance Project for the new thermal power plant and the sale of the Kosova B thermal power plant.[22]

---

[17] Decision of the Kosovo government no. 2005/06.

[18] Government Decision no. 04/36.

[19] Government Decision no. 03/38.

[20] Reports in daily newspapers in Kosovo of the signing of tender evaluation processes by consultants.

[21] http://www.keds-piu.org/sq/project-advisors.

[22] http://www.lignitepower.com/index.php?option=com_content&view=category&layout=blog&id=36&Itemid=88&lang=sq.

4. KOSOVO ENERGY STRATEGY

In 2005 the Kosovo Assembly adopted an Energy Strategy for the years 2005–2015. This strategy was reviewed in 2009, and the Kosovo government sent for Assembly approval an updated Energy Strategy for 2009–2018. Following months of discussion in the Kosovo Assembly, the Energy Strategy for 2009–2018 was approved by the Kosovo Assembly on April 1, 2010.

Similar to the Energy Strategy for 2005–2015, this updated strategy also focuses mainly on lignite and the production of energy from lignite, leaving aside the question of alternative sources of energy. The Kosovo Energy Strategy 2009–2018 (hereinafter referred to as the Strategy) includes lignite capacity studies, assessment of the current situation in the two thermal power plants, and consideration of new possible investments in lignite, but does not include any study on alternative forms of energy such as wind, solar, and geothermal energy. Additionally, the Strategy does not include any detail on the possibility of implementing energy projects outside the country in an effort to establish a regional energy exchange. The objectives of eliminating high energy losses in the grid, both technical and commercial, and of improving energy efficiency have also been largely ignored. It must be said that Kosovo does not have a comprehensive strategy; it has a lignite strategy.

An energy strategy that is valid for the period up to 2018 should contain studies on alternative energy sources. These are especially crucial when considering that in accordance with the requirements of the European Union, EU member states and states aspiring to become part of the EU should achieve a 20 percent ratio of energy production from renewable sources, increase energy efficiency by 20 percent, and reduce CO2 emissions by 20 percent by 2020, an energy agreement known as the 20-20-20 principle.

Likewise, **the Kosovo Assembly should require the government to prepare a new strategy looking forward to 2020, specifically in terms of how to meet these requirements.**

In addition to the strategy itself being incomplete, the process of its adoption has been irregular and questionable. In the Kosovo Assembly session of April 1, 2010, the Commission for Economy, Trade, Industry, Energy, and Telecommunication, as a functional commission, reviewed the Energy Strategy 2009–2018 and added its own recommendations for the adoption of the Strategy, which included these five items:

1. Lignite resources must be made available for utilization in accordance with the new energy generating capacity and in harmony with the development interests of Kosovo.

2. The government should create a legal environment for competition and encourage the free market in the energy sector.

3. The Kosova B thermal power plant is not to be included in the tender package together with Kosova e Re, but should remain operative in accordance with the Energy Strategy that was discussed within the Assembly.

4. Construction of new generating capacity is to be done on the basis of the long-term interests of Kosovo, beginning with 1,000 megawatts, with the possibility of constructing other capacity that meets the requirements and the energy balance of the countries in the region.

5. The Kosovo government must match the action plan with the Energy Strategy adopted for the period 2009–2018.

The Assembly adopted the Energy Strategy for 2009–2018, along with the five recommendations of the parliamentary commission, with changes to Recommendation 3. However, the current state of Recommendation 3 remains unclear. In the April 1, 2010, session, the Assembly considered numerous proposals, such as not including the Kosova B thermal power plant in the tender package with the Kosova e Re thermal power plant; involving a private investor in Kosova B different from the one in the new thermal power plant; and the government's proposal, that Kosova B be included in the tender package with Kosova e Re. The decision of the Assembly president, no. 03-V-272, reformulates Recommendation 3 by giving the government permission to include the revitalization of Kosova B in the tender package of Kosova e Re, even though in the initial strategy sent by the government to the Assembly no such possibility was expressly mentioned.

Recommendation 1 is also in question. According to the explanations of the parliamentary commission members, this recommendation was made with the objective of identifying what lignite mining capacity will be given to investors in relation to the power production capacity.[23] This recommendation was supported by the government. On the other hand, as we will see further on in this analysis, in the call for investor prequalification, the lignite mining capacity for the new quarrying site is included in the tender package.

Therefore, the Energy Strategy, in addition to including studies of alternative energy sources, should also be amended to clarify the decision of the Assembly on the inclusion of Kosova B in the tender package with Kosova e Re, to identify how lignite mining will be privatized, and to enforce the need to improve energy efficiency by reducing the loss of electric energy in the grid.

5. ENERGY MARKET MODEL

Another of the most important energy documents, in addition to the Kosovo Energy Strategy, is the Energy Market Model. In May 2010, the Kosovo government asked the Ministry of Energy and Mines and the Ministry of Economy and Finance to establish and instruct a working group to review and revise the Energy Market Model.[24] Two months later the government adopted a new Energy Market Model according to the proposal of that working group.[25] This concept was never made public, even after demands by civil society representatives.[26] Making this concept public and the inclusion of civil organizations in this

[23] See the discussion of the CETIET member Mr. Et'hem Ceku in the plenary session of April 1, 2010, on the Energy Strategy.

[24] Kosovo Government Decision no. 7/125 of May 18, 2010.

[25] Kosovo Government Decision no. 7/135 of July 28, 2010.

[26] In August 2010 the GAP Institute, as part of the GAP Monitor project on the reporting of Kosovo government decisions, forwarded a request to the MEM and the MEF to gain access to the Concept Electrical Energy Market Model adopted on July 28, 2010; however, it did not receive an answer to this request. Civil societies have requested the opening of the process on the energy market modelling in the meetings held with the European Commission, the World Bank, and USAID; however, there was no willingness to make this process transparent.

process are basic and necessary requirements for democratic decision making. Claims that the market model will include guarantees for investors that the government will cover all their losses for 20 consecutive years contradict the Kosovo government's arguments that privatization of distribution and generation will bring economic development. They also contradict the EU principles of a free market economy and bring the "free market" dangerously close to a monopoly.

In order to run the energy market as effectively as possible in the following years, the process must be made transparent; NGO and independent experts must be included in this process.

6. PRIVATIZATION PROCESS AND METHOD

The Kosovo government, with the support of its international partners, has divided the privatization of energy sources and infrastructure into two phases: 1) privatization of distribution and 2) privatization of generation. These two processes were initiated years ago, but their core elements have undergone continuous changes as result of government policies. This has caused some credible investors to lose interest and walk away from the processes.

The privatization process is now being hurried along because of Kosovo's budget crisis. The government has announced that the winner of the privatization process for distribution and supply will be announced in September 2011, with the financial settlement to be made in December 2011. For the privatization of generation, the winner is expected to be announced in March 2012 and the financial settlement to be made in October 2012.[27] It seems obvious that privatization is now more focused on budgetary issues than on the resolution of energy problems or on sustainable development.

6.1. Generation

The lignite-based thermal power project was initiated in 2005 by the Kosovo Democratic League (LDK) and the Alliance for Kosovo's Future (AAK), which were in power at the time. The project entailed the construction of a thermal power plant that would produce up to 2,100 MWh of electrical energy. Proposals were collected in 2006, and four large global consortiums were prequalified. This project was later delayed with the shift in government in 2008, a new governing coalition having been formed between the LDK and the Kosovo Democratic Party (PDK). When the project was reviewed again, plans were made for the construction of a lignite-based thermal power plant, but energy output was downgraded to 1,000 MWh. This project never moved forward. It came to a halt immediately after the Copenhagen Conference on World Climate in 2009, at which conference parties agreed on new regulations for any construction of coal-based thermal power plants. After this conference, the Kosovo government agreed to review the project once again, this time proposing a plant of 600 MWh capacity and also opening a new lignite mine (the Sibovc mine, which contains up to 990 million tons of lignite).

[27] Economic Development Vision 2011-201, adopted in the Kosovo government on April 18, 2011 (http://www.gapmonitor.org/data/Image/Aprovimi_i_Vizioni_i_Zhvillimit_Ekonomik.pdf).

Currently the World Bank is involved in Kosovo energy through its financial support of the Lignite Plant Technical Assistance Project (LPTAP). The role of the World Bank is expected to increase with the provision of a Partial Risk Guarantee and possible provision of financial support in the supervision of the works to open the new lignite mine and construction of new power plant. The managing body of the project is the Project Steering Committee, whose main duty is the coordination and supervision of the Project Management Group. The transaction adviser for this project is PricewaterhouseCoopers.[28] The Kosovo government has prequalified four international companies for this project:

- Consortium Adani Power/PT Adani Global from India and Indonesia
- Consortium AES Electric Ltd./Demir Export A.S. from the USA and Turkey
- The Park Holding Submission from Turkey
- Consortium PPC/Contour Global LLP from Greece and the UK/USA

Experts in this field and representatives of civil society have raised concerns over these companies' lack of experience in managing a project of these proportions. Additionally, the implementation of this project is in conflict with some EU rules that Kosovo has made a commitment to implement and that come from the Energy Community Treaty, including reduction in the levels of ash, NOx, SOx, and other particles. However, the levels of pollution and CO2 gas emission the plant may produce are not limited by any of the rules, as Kosovo is not a signatory of UNFCCC and the Kyoto Protocol.

Energy Community Treaty	Kosova e Re Thermal Power Plant	
	Fulfillment	Nonfulfillment
Acquis on energy	X	
Acquis on environment		X
Acquis on competition		X

Due to a lack of information, it is difficult to calculate the cost of constructing the new thermal power plant. Implied public health costs and mining costs, among other important data, are missing. The project in its current phase does not provide any meaningful information on the level of pollution that it will cause, and does not provide specifics on the technology that will be used. Without this data there is a significant threat to the well-being of affected communities. Furthermore, privatization of the existing Kosovo B plant to the same private investor represents creation of a power generation monopoly, which goes against the EU initiative to open up the energy market in the Balkans.

Furthermore, under the proposed development Kosovo will not be able to achieve targets set by the European Commission in its 20-20-20 principle. Kosovo currently has no plans to reduce CO2 emissions by 20 percent, improve energy efficiency by 20 percent, and use

[28] In addition to these, John T. Boyd Company and PB provide their services as transaction advisers, while Hunton & Williams and IPA cover the legal advising part and ERM & CSA Group provide advisory services on the environment.

renewable resources for 20 percent of its electricity production by 2020.[29] This new thermal power plant may present a serious problem as Kosovo looks to integrate into the EU, taking into consideration the EU objectives on significantly reducing CO2 emissions in the decades to come (20 percent by the year 2020, 50 percent by the year 2050, and 80 percent by the year 2080).

The construction of the thermal power plant also presents a serious risk for potential investors in the field of renewable energy. The discouragement of potential investors by government officials has already been recorded unofficially.[30]

KIPRED, GAP, FIQ, and other civil organizations are concerned about the fact that the Kosovo Energy Strategy is not based on a full study of alternative energy and has few prospects for projects focused on developing cleaner energies. Furthermore, Kosovo has not developed a market model that provides healthy competition in the field. Additionally, full data on costs and benefits of the implementation of the projects in question are missing. By not providing complete and accurate data on the benefits and costs for the development of projects foreseen in its Energy Strategy, Kosovo risks developing projects that could be damaging to the country and that will, among other things, result in dangerous pollution of the environment, high health care costs, an inefficient energy system, lack of clean energy, and failure to achieve European objectives in the field of energy production.

6.2. Kosovar Electricity Distribution and Supply Company

The electricity distribution and supply businesses are part of the Kosovo Energy Corporation J.S.C (KEK), of which the Kosovo government is the sole shareholder. The government has decided[31] to spin out the distribution and supply process from the lignite production and generation units of KEK and privatize it.

The privatization project is being managed by the Project Implementation Unit (PIU), which is a technical project management body that also serves as the technical secretariat of the Privatization Committee. The PIU reports directly to the Privatization Committee and is tasked with the daily implementation, management, and supervision of the project. The Privatization Committee, established by Decision 08/39 of the Kosovo government, is responsible for implementing the project in accordance with government objectives.

The privatization of electricity distribution networks in other Balkan countries has resulted in their sale to Western companies, as was the case with CEZ from the Czech Republic in Albania, EVN of Austria in Macedonia, and A2A SpA of Italy in Montenegro. The four consortiums that are currently prequalified to take over the production process in Kosovo are Calik Holding and Limak Holding from Turkey, Elsewedy Electric from Egypt, and Consortium TAIB – Yildizlar from Bahrain.

Also, though the stated goal of privatization is to increase efficiency and competition, with the privatization of the supply service and the distribution grid to a single entity, the Kosovo

[29] The Kosovo Energy Strategy 2009–2018 foresees that until 2016, only 7 percent of the energy produced will be from renewable sources.

[30] Interview with potential investors from whom bribes were demanded by government officials.

[31] Through Government Decisions 03/08 and 08/09.

government will narrow the possibility of competition in the field of electricity supply in the future.

Most important, the business plan that is being discussed for the new company has not been discussed openly and remains unknown to the public. This documentation contains crucial information on future electricity tariffs, government subsidization in the coming years for power imports and for commercial losses, the plan on decreasing technical losses, and other important aspects that are directly connected with the tariffs consumers will have to pay in the end.

On the other hand, the project for the privatization of the distribution and supply businesses could contradict EU rules according to the Energy Community Treaty, as the privatization process partially conflicts with the acquis on energy and is completely in conflict with the acquis on competition.

7. ADDRESSING OPEN ISSUES

7.1. The 400 kV line with Albania

In the Kosovo Energy Strategy, there has been no consideration of the regional possibilities of coordination and cooperation of energy systems.

The Kosovo government has declared the 400 kV line Kosovo–Albania to be of general national interest.[32] Investments in this line were first made at the beginning of May 2011 and will total approximately 34 million euro. The construction of this line is expected to improve the energy supply in Kosovo, especially in wintertime, and will enable the exchange of energy between these two countries. The German government has allocated a grant of 16.5 million euro, while the German Development Bank (KfW Entwicklungsbank) has issued a soft loan for the sum of 17 million euro for the construction of this energy line.

This project may affect Kosovo positively in terms of a more secure power supply during times when Albania has reserves. This development needs to be considered prior to going ahead with any other plans to establish new electricity projects in Kosovo.

7.2. Investments in Energy Efficiency

Kosovo belongs to the list of countries that are energy-nonefficient.[33] Very little progress has been made so far in improving energy efficiency. According to the Action Plan on Energy Efficiency 2010–2018, households are the biggest consumer of energy (63 percent). Approximately 35 percent of the energy being produced is used for heating dwelling spaces. This figure is indicative of the poor insulation in residential buildings throughout Kosovo. Therefore, any discussion of energy production should emphasize proper insulation of residential buildings. Improving energy efficiency reduces energy demand, which means a smaller plant would likely met demand.

[32] Decision 04/140 of the Kosovo government on August 18, 2010.

[33] The World Bank Group, Energizing Sustainable Development: Energy Sector Strategy of the World Bank Group, March 16, 2011.

Although achievement of the 20 percent measure of energy efficiency by 2020 is one of the requirements of the European Union, the Kosovo Action Plan for Energy Efficiency 2010–2018 set as an objective 9 percent by 2018. This objective is too low, and if this pace continues, Kosovo will not be able to achieve the energy-efficiency goal of 20% until 2030.

The Kosovo government and the Kosovo Parliament are considering the Law on Energy Efficiency, and it is expected to be adopted by the Assembly in the coming months. Comments on the content of this law have been offered by civil societies during the public debate period. The adoption of the law would pave the way for the establishment of the Energy Efficiency Agency and would ensure a more meaningful inclusion of municipal assemblies in increasing energy efficiency.

7.3. Reducing losses in the grid

Energy losses are currently very high. According to the Energy Strategy 2009–2018, from the gross consumption in 2007 of 4,582 GWh of energy, only 2,425 GWh (53 percent) was billed; from this billed energy, an amount covering only 1,843 GWh (76 percent) was collected. In 2007 the commercial losses were 1,333 GWh, equivalent to the entire production of Kosova A, all production from the hydro power plants and part of Kosova B production. These losses represent €99 million for KEK J.S.C., a sum that would have allowed it to cover all its operational costs and energy imports, as well as part of the capital investments that were made during this period. From 2007 to now, very little has been done to prevent these losses. The latest figures indicate that 42 to 43 percent of produced energy is lost.

Therefore, before new generating capacity is built, these commercial and technical losses must be stemmed. The government must assess the realistic demand for energy and what additional energy capacity is required.[34]

7.4. Studies on alternative energy sources

According to its own Operational Policies, the World Bank invests in coal energy only in cases where studies conclude that a country has no other sufficient sources of energy. In Kosovo, the WB has not done any studies on solar, wind, or geothermal energy capacity. The Kosovo Energy Strategy 2009–2018 is a coal-based strategy. Even though the Strategy indicates that alternative studies will be carried out, so far these studies have not been initiated. The WB must conduct a study on alternatives before engaging with any lignite project, in accordance with its Operational Policies.

7.5. Resettlement

The construction of the new lignite-based power plant is connected to the opening of a new lignite mine, the Sibovc mine. A smaller mine, named Sibovc South West, which will be sold to the company that wins the bid for the construction of the new plant, has already been

[34] Item 3.2 of the Energy Strategy 2009–2018.

opened. The Kosovo Energy Corporation (KEK) has already bought land from the inhabitants in the area to start opening the large Sibovc mine. This acquisition has not been done in accordance with the World Bank Operational Policy on land acquisition and resettlement.[35] World Bank regulations apply to all procedures surrounding the Sibovc mine resettlement, which is why a Resettlement Policy Framework had to be endorsed by the government of Kosovo. The purchase needs to be reviewed and people who sold their property for the purpose of opening the new mine need to be paid fairly per World Bank policies.

Furthermore, Kosovar law currently lacks legislation that explicitly defines policy for involuntary resettlement. Law No.03/L –139 On Expropriation of Immovable Property comes closest to providing guidelines for issues of resettlement; that said, this law falls short of meeting the World Bank regulations on involuntary resettlement, as outlined in WB Operational Policy 4.12, in numerous ways. Reforms to current Kosovar law are of the utmost importance, as they could potentially provide the sole guidelines for the entire resettlement process in the new Sibovc mining area.

[35] WB OP 2.14 "Involuntary Resettlement."

8. CONCLUSIONS

1. Privatization of public enterprises in Kosovo has been a nontransparent process, without any public discussions and without involving the civil society. One of the most nontransparent processes is that of the privatization of generation and distribution of electrical energy and energy market modeling.

2. The Energy Strategy 2009–2018 is a strategy based almost exclusively on lignite and has not been accompanied by necessary studies on alternative sources of energy. Its adoption on April 1, 2010, was both hasty and ambiguous.

3. Companies prequalified for the purchase of generation and distribution capacity do not have sufficient experience in managing large energy projects, especially not in the production of clean energy. Most of the bidding companies are non-European companies.

4. Technical and commercial losses of energy are high, and so far nothing has been done to prevent these losses.

5. The Action Plan on Energy Efficiency 2010–2018 does not fulfill the EU criterion of a 20 percent increase of energy efficiency by 2020.

6. The sale of the new lignite field and the inclusion of the Kosova B thermal power plant with the construction of the Kosova e Re plant go against the principles of a free market and competition. Accordingly, Kosovo risks creating a monopoly in the field of energy. This is in conflict with the European Union principles.

7. The involvement of the WB in the construction of a new thermal power plant before studies on alternative sources of energy are conducted and without addressing energy losses and energy efficiency goes against the principles of the World Bank itself, proclaimed recently in the draft strategy of the WB and stipulated in its Operational Policies.

9. RECOMMENDATIONS

1. The Energy Strategy 2009–2018 needs to be redrawn and amended with necessary studies on alternative energy sources to reflect the EU goals in the field of energy.

2. Studies on alternative energy sources must be conducted by the World Bank or under its supervision prior to the development of any other lignite-based project; these include studies on solar energy capacity, wind energy capacity, and energy capacity from geothermal sources.

3. Energy efficiency, reduction of technical and commercial losses of energy, and investment in transmission lines with neighboring countries need to be pursued prior to the development of any lignite-based project.

4. Concrete plans and appropriate implementation mechanisms for achieving EU objectives for 2020 need to be defined and implemented immediately, including increasing energy efficiency by 20 percent, producing 20 percent of energy from renewable energy sources, and reducing CO2 emissions by 20 percent.

5. The Energy Market Model should be made public and discussed with the public and independent energy experts prior to being approved and enforced. The market model should guarantee a sustainable energy supply, encourage competition, and promote the diversification of energy sources.

6. The process of privatization of generation and distribution should be transparent and should allow for the participation of civil society in privatization commissions.

7. The Kosova B thermal power plant should be separated from the package of the new thermal power plant project and should be an individual project involving private capital.

8. The separation of the distribution grid from the supply business needs to be analyzed and reviewed in order to ensure competition in the field of electricity distribution and supply to consumers in the future.

From: Justin Guay <justin.guay@sierraclub.org>
Date: Thu, Feb 23, 2012 at 4:36 PM
Subject: Kosovo Air Quality Monitoring and Public Health Impacts
To: plehouerou@worldbank.org, rkyte@worldbank.org, tahlers@worldbank.org
Cc: ichordrf@state.gov, hmuller@worldbank.org, Nezir Sinani <nezir.sinani@indep.info>, anagavci@usaid.gov, KisselME@state.gov, Helen.Walsh@treasury.gov, beth.urbanas@do.treas.gov

Dear Rachel Kyte, Philippe Le Houérou, Ted Ahlers,

CC: Arlen Nagauci
USAID/Kosovo Office

Re: Monitoring and Modeling to Assure That Kosovo Lignite Thermal Power Plant Emission Do Not Adversely Impact Public Health and the Environment

We write to express our concerns and voice our objection to the use of intermittent, short term monitoring at site locations that represent less than the maximum impacted location as a basis for assessing the environmental and public health impacts of the proposed expansion of the Kosovo Lignite Thermal Plant. We note that in the December, 2011 revised work plan for the USAID technical assistance project[1] that USAID is funding additional intermittent air quality sampling at the request of the World Bank using passive diffusion samplers and DC powered portable medium-flow PM samplers. USAID has sponsored this type of monitoring in the past to identify potential points of concern with respect to human impacts, and enhance local capacity for siting; maintenance and data analysis. We support such efforts.

However, up until now the World Bank has committed to fund continuous analyzers at maximum impact sites to support the modeling that will be needed to properly assess the impacts of current and proposed thermal plant power generation options and alternatives. We assume, we hope incorrectly, that the proposal to expand the use of intermittent sampling to 7 sites at the request of the World Bank reflects a decision by World Bank to reduce or eliminate use of continuous monitors under the Kosovo LPTAP. We are also concerned that the proposed monitoring locations do not reflect the maximum impacted locations; which cannot be determined until the stack height is settled on.

Given the topography of the current and proposed thermal unit location one can assume that "normally" the plume from the plant will pass over those living nearest and impact those living several kilometers further from the site – and especially those living at or near the elevation of the stack. However, during atmospheric conditions conducive to the formation of inversion layers, what is known as "plume looping" can occur. When plume looping occurs, the

plume falls to earth quickly rather than rising and being dispersed. This creates a situation where those living near the plant are exposed to very high concentrations of pollutants, including the relatively high levels of metals that are typically found in poor or moderately controlled plants. Since plume looping occurs only infrequently, continuous monitoring over a long period of time is necessary to identify and quantify the acute risk to those living nearby. Continuous monitoring over a long period of time is also necessary to properly calibrate the dispersion models that predict the health impacts in locations where monitors have not been installed and to permit assessment based on multi-year weather data.

Because of this topography we anticipate that a properly implemented monitoring and modeling program will demonstrate that emissions from the Kosovo lignite thermal plant are causing exceedances of EU and World Bank ambient air quality standards. We believe that such modeling will also demonstrate that emissions from the plant will continue to cause unhealthy levels of air pollution, even if Kosovo B and the proposed new Kosovo unit meet EU emission standards. We believe that, as a consequence, it may be necessary to add EU BAT levels of controls to both the existing and proposed new Kosovo units. This will add hundreds of millions of euro to the estimated cost of the new Kosovo unit, for which we believe no need has been demonstrated. It may also be the case that a proper monitoring and modeling program will show that, even with BAT controls, emissions from the Kosovo plant will cause exceedances of health-based ambient air quality standards.

The cost of a proper monitoring and modeling program is insignificant compared to the hundreds of billions of euro that the proponents of the new lignite plant recommend be spent and passed on to ratepayers. This cost is also insignificant to the adverse public health impact (and associated cost) that would be created if additional lignite-fired generation is constructed in an area that does not permit free dispersion of the plume. Again, we hope that our interpretation of the recent USAID Task Order is incorrect and that the World Bank remains committed to continuous emission monitoring over a relatively long period of time, at locations that represent maximum adverse impact and a robust modeling program using the most recent version of AEROMOD or a similar program. We look forward to clarification from the World Bank on this issue and a reaffirmation of its policies on demonstration of ambient air quality impacts of its proposed projects.

Sincerely,

Justin Guay, Sierra Club
Nezir Sinani, INDEP

[1] Technical Assistance for Ambient Air Quality Institutional Capacity Building related to the Environmental Assessment for the New Kosovo Power Plant (Contract Number EPP–I–00-03–00004-00 Task Order No 11)

--

Justin Guay
Washington Representative
Sierra Club International Climate Program
50 F Street NW Washington D.C., 20010
Tel: 202.664.6460
skype: guayguay2
twitter: Guay_JGuay

On Mon, Mar 12, 2012 at 3:40 PM, <mgorcaj@worldbank.org> wrote:
Dear Blerta,

The Regional Country Director Ms. Jane Armitage, will be visiting Kosovo soon, on March 13-17, 2012.

The World Bank Office in Kosovo would like to arrange a meeting for the Country Director during this visit with the Obiliq community members.

We would appreciate a lot if you could let us know if you would be available for the meeting on March 14 in 14:00 in World Bank premises.

(See attached file: driving_directions_to_WB_Office.JPG)

Thank you in advance and best regards,

LINDA

****

Mirlinda Gorcaj - Llalloshi
Program Assistant
The World Bank - Kosovo Office
Sat. 5282 ext.112
Tel: 381 - 38 224-454 (extn.112)
Fax: 381 - 38 224-452
E-mail: Mgorcaj@worldbank.org
http://www.worldbank.org/kosovo

[1] Technical Assistance for Ambient Air Quality Institutional Capacity Building related to the Environmental Assessment for the New Kosovo Power Plant (Contract Number EPP–I–00-03–00004-00 Task Order No 11)

Renewable & Appropriate Energy Laboratory
Energy & Resources Group
University of California, Berkeley

** Version 1 **

Sustainable Energy Options for Kosovo

An analysis of resource availability and cost

Daniel M. Kammen, Maryam Mozafari and Daniel Prull

January 15, 2012

Energy and Resources Group
Goldman School of Public Policy
Renewable and Appropriate Energy Laboratory
University of California, Berkeley
Berkeley, CA 94720-3050
http://rael.berkeley.edu | Tel: 510-642-1640

Table of Contents

Executive Summary

Today Kosovo faces critical energy and development choices that will impact the energy supply available to meet basic needs, and provide for economic growth. These choices will also impact the health of the population, determine the job creation potential of the energy sector, and impact the wider regional role that Kosovo may play in the European Community and European Union.

The Renewable and Appropriate Energy Laboratory at the University of California, Berkeley (http://rael.berkeley.edu) has conducted an assessment of the economic, social, and environmental costs and benefits of a set of energy scenarios for Kosovo. This work was facilitated by an exceptional level of openness and collaboration from the civil society and energy sector in Kosovo.

This assessment is an analytic treatment of the energy options that exist today and that can be created through investigation of new energy efficiency, renewable energy, and the wise use of fossil fuel resources. Key components of such a forward-looking energy plan for Kosovo, and arguably for the Balkans more widely, are: job creation and the support of indigenous industry; reduced exposure to energy supply and price risks through regional coordination and integration; and an energy mix that reduces human and environmental health risks and facilitates economic integration with the European Union.

To assess the options available, we have examined various energy and development scenarios for Kosovo based on the initial work of the Kosovar Ministry of Energy and Mining (MEM) and those proposed by multinational development agencies and by Kosovar civil society.

Base Case Energy Scenario
In this scenario, by 2020 the total energy generated from renewables is 1676 GWh – which is equivalent to 22% of the Total Net Generation. Generation from hydro power plants accounts for 17% of the Total Net Generation, while Bio+Wind+Solar contribute 5%. With this high percentage of power being generated by renewables, our simulation shows that very little power is required from TPP G3 (only 376 GWh in 2020 – which represents a capacity factor of only 11%).

Low-Carbon & EE Scenario
The capacities of renewable generation in this scenario provide the forecasted Total Consumption with a combination of local renewables and imports from neighboring countries. In this case net imports of electricity drop annually from 2010 - 2015. In 2016 – 2017 the generation within Kosovo is high enough that it becomes a net exporter of electricity to neighboring countries (with net exports of 152 GWh and 167 GWh, respectively). In 2018, when TPP A is de-commissioned, Kosovo once again becomes a net importer of electricity. However, at maximum, the net imports for the period 2018 – 2020 are half the current (2010) values. In this scenario 38% of the annual energy demand is met through renewable resources. This scenario also has the highest job creation of all the cases studied or presented.

Net Electricity Generation (GWh): Base Scenario	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TPP Kosovo A3-A5	1740	1740	1739	1739	1739	1740	1739	1739	0	0	0
TPP Kosovo B1-B2	3271	3461	3527	3568	3595	3627	3298	3275	3975	3998	4002
TPP Kosovo G1-G2	0	0	0	0	0	0	388	693	1448	1464	1483
TPP Kosovo G3	0	0	0	0	0	0	0	0	350	370	376
Total TPP	**5010**	**5201**	**5267**	**5307**	**5335**	**5366**	**5425**	**5708**	**5773**	**5832**	**5861**
Small HPP	157	229	302	374	447	519	592	664	737	809	881
HPP Zhur	0	0	0	0	0	0	401	401	401	401	401
Total HPP	**157**	**229**	**302**	**374**	**447**	**519**	**992**	**1065**	**1137**	**1210**	**1282**
Biomass	0	8	17	25	34	42	50	59	67	75	84
Wind	0	2	32	68	99	134	169	205	240	271	311
Solar	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total Bio + Wind + Solar	**0**	**10**	**49**	**93**	**132**	**176**	**220**	**263**	**307**	**346**	**395**
Total Renewables	**157**	**239**	**351**	**467**	**579**	**695**	**1212**	**1328**	**1444**	**1556**	**1676**
Total Net Imports	470	476	527	549	586	613	217	0	0	0	0
Total Net Generation	**5637**	**5917**	**6144**	**6324**	**6500**	**6675**	**6854**	**7036**	**7218**	**7388**	**7537**

Assumptions:
141MW Wind by 2020
140MW new hydro by 2020 (182 including existing capacity)
HPP Zhur online in 2016 with 15% cf
800kW PV by 2020
16.5MW Biomass by 2020

Executive Summary Table 1:
Simulated Net Electricity Generation for 'Base Scenario' 2010-2020

Net Electricity Generation (GWh): Low-Carbon & EE Scenario	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TPP Kosovo A3-A5	1740	1740	1740	1740	1740	1740	1740	1740	0	0	0
TPP Kosovo B1-B2	3271	3502	3510	3469	3416	3377	3351	3310	4612	4556	4485
Total TPP	**5010**	**5243**	**5250**	**5209**	**5156**	**5117**	**5090**	**5050**	**4612**	**4556**	**4485**
Small HPP	157	229	302	374	447	519	592	664	737	809	881
HPP Zhur	0	0	0	0	0	0	401	401	401	401	401
Total HPP	**157**	**229**	**302**	**374**	**447**	**519**	**992**	**1065**	**1137**	**1210**	**1282**
Biomass	0	84	168	252	335	419	503	587	671	755	838
Wind	0	2	83	165	251	333	419	501	587	674	761
Solar	0.00	0.01	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.12	0.13
Total Bio + Wind + Solar	**0**	**86**	**251**	**416**	**587**	**752**	**923**	**1088**	**1258**	**1429**	**1599**
Total Renewables	**157**	**315**	**553**	**790**	**1033**	**1271**	**1915**	**2153**	**2395**	**2638**	**2881**
Total Net Imports	470	359	341	324	310	286	-152	-167	204	188	165
Total Net Generation	**5637**	**5916**	**6144**	**6324**	**6500**	**6675**	**6854**	**7036**	**7211**	**7382**	**7531**

Assumptions:
281MW Wind by 2020
140MW new hydro by 2020 (182 including existing capacity)
HPP Zhur online in 2016 with 15% cf
8MW PV by 2020
165 MW Biomass by 2020

Executive Summary Table 2:
Simulated Net Electricity Generation for 'Low-Carbon & EE Scenario' 2010-2020

Job creation is an especially pressing issue in Kosovo as the country is facing double-digit unemployment rates and a fast growing youth rate entering the workforce. With a 46 percent unemployment rate and a low employment rate (29 percent), Kosovo has the weakest employment track record in Europe. Therefore we also examined the job opportunities each of these scenarios would present. Three scenarios were examined:

- Business As Usual (BAU): In this scenario the load till 2020 is supplied through the existing electricity resources (TPP A & B, Existing HPP), the new Kosovo C and Imports.
- Base Scenario: This is the same 'Base Scenario' identified above
- Low-Carbon Scenario: This is the same 'Low-carbon Scenario' identified above

Our analysis shows that the renewable energy sector generates more jobs per unit of energy delivered than the fossil fuel-based sector. There is a respective %18 and %27 increase in the number of total jobs created from the 'Base' and 'Low-Carbon' Scenarios compared to the BAU case.

Energy Technology	BAU Job.yr till 2020	Base Scenario Job.yr till 2020	Low-Carbon Scenario Job.yr till 2020
Biomass	0	33718	345621
Small Hydro	167	541181	541181
Large Hydro (Zhur)	0	206836	206836
Solar PV	0	22	223
Wind	0	94792	233937
Coal	2,812,529	2,449,411	2,233,061
EE			
Total (Job.yr till 2020)	2,812,696	3,325,961	3,560,859
Jobs vs BAU (%)	-	118	127

Executive Summary Table 3:
Total Job.yr created for 'BAU', 'Base' & 'Low-Carbon' Scenarios till 2020

We have also examined the total cost of electricity production in each scenario. The next table summarizes the cost for both capacity and annual production in each of the 'Base' & 'Low-Carbon' Scenarios. The cost of coal used in the table does not include externalities. A recent assessment of the cost externalities associated with a coal-dominated economy in Republic of South Africa shows that including just a few of the external costs in the true cost of coal-fired electricity generation would add between 237% and 459% to the 2010 electricity tariff. The energy generation mix in Kosovo is similar to that of South Africa in terms of the local coal mining to combustion value and impacts chain. This means a roughly 200% to 400% increase in the electricity cost in Kosovo should not be an overestimation.

CASE	DESCRIPTION	PEAK MW	Total GWH	$/W_peak[1]	$/MWh[2]	$ million (Capacity)	$ million (LCOE)	$ million (LCOE w Externalities - 200%)	$ million (LCOE w Externalities - 400%)	RE Generation (RE/Total) %	JOBS vs BAU
Base Scenario	TPP A3-A5		13916								
	TPP B1-B2		39598								
	TPP G1-G2	600	5476	2.6	94.8	1560.00	519.12	1038.25	2076.50		
	TPP G3	400	1096	2.6	94.8	1040.00	103.90	207.80	415.60		
	Wind	141	1530	1.95	97	274.95	148.41	148.41	148.41	22	118
	Small Hydro	182	5710	1.5	86.4	273.00	493.34	493.34	493.34		
	HPP Zhur (cf=15%)	305	2003	1.44	155.5	439.20	311.47	311.47	311.47		
	Residential PV	0.8	0.07	4.65	210.7	3.72	0.01	0.01	0.01		
	Biomass	16.5	461	2.4	112.5	39.60	51.86	51.86	51.86		
	Imports	295	3438		142		488.20	976.39	1952.78		
	Total:					3630	2116	3228	5450		
Low-Carbon & EE Scenario	TPP A3-A5		13919								
	TPP B1-B2		40859								
	Wind	281	3776	1.95	97	547.95	366.27	366.27	366.27		
	Small Hydro	182	5710	1.5	86.4	273	493.34	493.34	493.34	38	127
	HPP Zhur (cf=15%)	305	2003	1.44	155.4	439.2	311.27	311.27	311.27		
	Residential PV	8	0.71	4.65	210.7	37.2	0.15	0.15	0.15		
	Biomass	165	4612	2.4	112.5	396	518.85	518.85	518.85		
	Imports	295	2330		142		330.86	661.72	1323.44		
	Total:					1693	2021	2352	3013		

1 Values from Black & Veatch
2 Values from US Department of Energy- DOE/EIA-0383(2010)

Executive Summary Table 4:
Total cost of generation for 'Base' & 'Low-Carbon' Scenarios excluding externalities

As shown in *Executive Summary Table 4*, the capital cost of the scenario including a new coal power plant is more than double the cost of the low carbon scenario. Moreover, in the absence of externalities the LCOE for the 'Base Scenario' is above the cost for the 'Low-Carbon Scenario'. If externalities are included, the cost of energy generation from the 'Base Scenario' (including the coal power plant) becomes as high as almost double the 'Low-Carbon Scenario'.

In conclusion we find that:

- The business as usual path, dominated by an expanded use of low-quality coal, is not the least-cost energy option for Kosovo given the social cost of thermal generation. The coal dominant energy path also burdens future generations with an energy mix that is neither environmentally sustainable nor is it a path that maximizes job creation.

- A low-carbon path exists for Kosovo that integrates aggressive energy efficiency deployment, use of both large and small-scale hydropower, solar, biomass and extensive use of wind energy while reducing human and ecological damage. This path whilst delivering 38% of the energy demand through renewable resources can also provide almost 30% more jobs than a business as usual path and it does so at an estimated cost savings of 50% relative to a base-case scenario that includes a new coal power plant.

- To make the low-carbon path viable, two key commitments are vital: 1) to implement aggressive energy efficiency programs (including reductions in technical losses) and enabling policies to do so; and 2) to explore and implement opportunities to make the hydropower capacity a resource year-round, and to develop wind or other renewable energy sources that can address peak energy demands, potentially utilizing wind and hydropower in concert, and/or to bring significant geothermal power into the energy mix.

1. Kosovo's Electricity Sector

1.1 Current Electricity Balance in Kosovo

1.1.1 Power Generation

Approximately 98% of power generated within Kosovo is from two lignite coal-fired thermal power plants (TPP), 'Kosovo A & B'. These plants are owned and operated by Korporata Energjetike e Kosoves (KEK): Kosovo's vertically integrated power utility is responsible for the mining of coal, generation, distribution and supply. TPP Kosovo A consists of five units (A1-A5), with a total installed capacity of 800 MW, although units A1 and A2 are no longer operational and considered unfit for further commissioning [11]. TPP Kosovo B consists of two larger units (B1 and B2) with an installed capacity of 678 MW. Data on the installed and available capacities, age and remaining hours [1,11] of TPP Kosovo A & B is presented in *Table 1* below.

	Installed Capacity	Available Capacity		First Year	Retirement	Remaining Lifetime
Name	(MW)	min (MW)	max (MW)	Yr	Yr	Hours
Kosova A1	65			1962	2007	
Kosova A2	125			1965	2002	
Kosova A3	200	100	130	1970	2017	61,320
Kosova A4	200	100	130	1971	2017	61,320
Kosova A5	210	100	135	1975	2017	61,320
Kosova B1	339	189	260	1983	2030	175,200
Kosova B2	339	189	280	1984	2030	175,200

Table 1: Capacities of Existing TPP within Kosovo (2010)

The availability of TPP Kosovo A & B is low due to frequent system failures, disconnections and repairs. This has been particularly burdensome for the manufacturing and construction sectors, where in 2009, firms reported an average of 43 outages per month [12]. These outages resulted in losses equivalent to 17% of the firms' annual sales, compared to less than 4% for similar transition economies. The low availability of TPP A & B is also due, in part, to damages incurred during the war. Damages in low-pressure rotors of units B1 and B2, for example, have reduced the maximum available capacities to 240 MW and 280 MW, respectively.

Figure 1 below shows the gross and net generation per month in 2010 from TPP Kosovo A & B [4]. Here, the net generation is equivalent to the gross generation less the auxiliary power consumption needed to support the operation of the power plant (generating auxiliaries).

- Total annual gross generation from TPP Kosovo A & B (2010) = 5041 GWh
- Total annual net generation from TPP Kosovo A & B (2010) = 5010 GWh

The relative net generation from TPP Kosovo A & B in 2010 was 1740 GWh (35%) and 3271 GWh (65%), respectively.

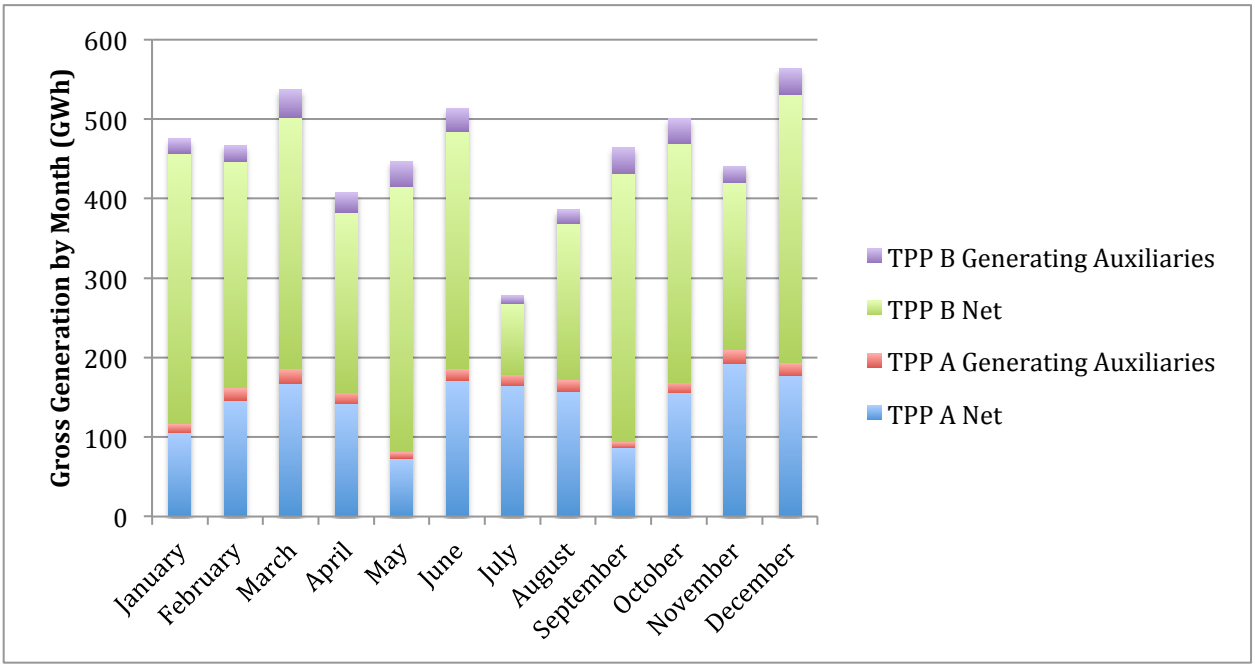


Figure 1: Gross Generation by Month from TPP A & B (2010)

Hydro power plants (HPP) accounted for the remaining ~2.2% of the net power generation within Kosovo in 2010. Data on the installed capacities of existing HPP within Kosovo was obtained from [3]. This data is reproduced in *Table 2* below.

Generating Unit	Capacity (MW)	
	Installed	Net
Ujmani/Gazivoda	35	32
Lumbardhi/Kozhnjer	9	8
Radavc	0	0
Burimi/Istog	0	0
Dikance	1	1
Total	**46**	**42**

Table 2: Installed Capacities of Existing HPP within Kosovo (2010)

HPP Ujmani/Gazivoda (HPP Ujmani) is managed by the public enterprise, Iber-Lipenci. This plant, which feeds directly to the transmission network, had a net generation of 114 GWh in 2010 [4] (corresponding to a capacity factor of ~41%). The remaining small HPP (all owned by private investors [3]) connect to various locations in Kosovo's distribution network. In aggregate, these small HPP had a net generation of 42 GWh (capacity factor ~48%).

1.1.2 Transit, Imports and Exports

KOSTT j.s.c (KOSTT) manages and operates the electricity transmission system of Kosovo and is responsible for the bulk transmission of electric power on the high voltage electric networks. KOSTT was established in 2006 as a result of the restructuring of the energy sector under the

Energy Community Treaty for South-eastern Europe [3]. Data on the transmission lines operated by KOSTT is presented in *Table 3* below [13].

Voltage (kV)	Number of lines	Total Length Installed (km)
400	6	182
220	13	232
110	45	728
	TOTAL	**1,142**

Table 3: Existing KOSTT Transmission Lines

In addition to transmission within Kosovo, the KOSTT system interconnects with neighboring Montenegro (400 kV line), Macedonia (400 kV line), Albania (220kV line) and Serbia (400 kV, 220 kV and 110 kV lines) allowing transit, imports and exports of electricity. Figure 2 shows the transmission network in Kosovo.

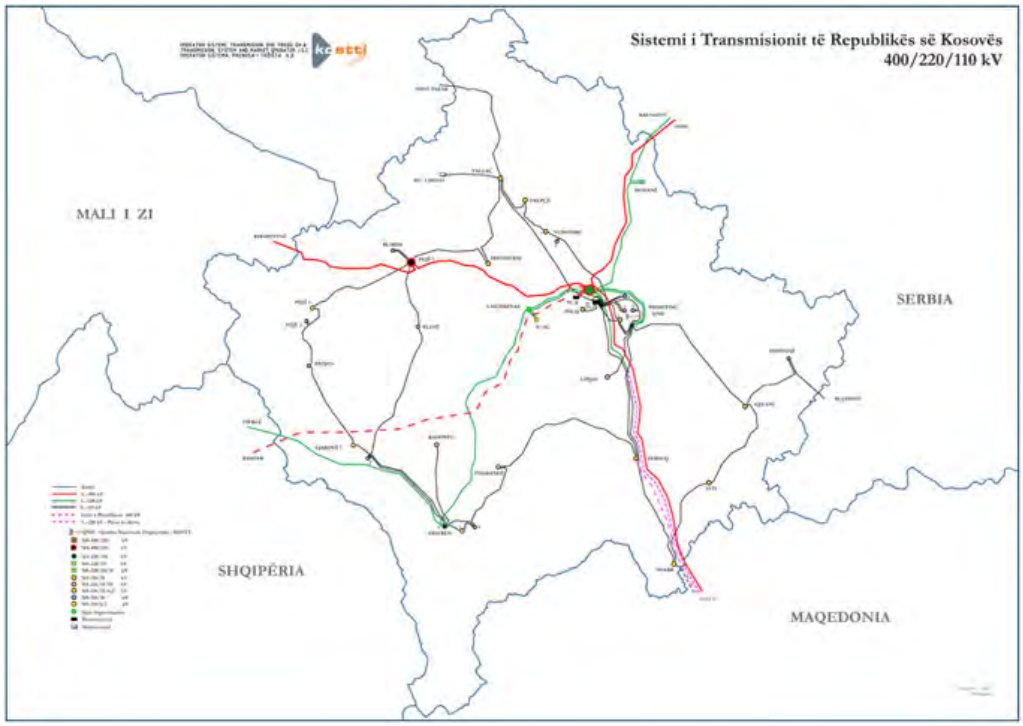


Figure 2: Map of transmission network in Kosovo [KOSTT]

The maximum capacity of energy exchange between Kosovo and its neighbors (calculated as the sum of the natural transmission capacity of each line) is ~1740 MW [11]. However, the net capacity for energy exchange is likely lower than this maximum, due to physical constraints in the lines, substations and generation capacities of neighboring countries.

Table 4 below shows the total flows of energy in and out of the KOSTT transmission system in 2010 from interconnections with neighboring countries [4]. The difference between the 'Interconnections IN' and 'Interconnections OUT' each month is net import of electricity into the KOSTT electricity grid. These imports are crucial for balancing demand in the country with

supply from its TPP and HPP as described in the previous section. Table 4 shows that net imports of electricity from interconnections with neighboring countries in 2010 totaled 470 GWh. The transit[1] of electricity (travelling through the KOSTT network) to neighboring countries thus totaled 3113 GWh.

	Interconnections IN (GWh)	Interconnections OUT (GWh)	Net Imports (GWh)
January	399	242	157
February	306	205	101
March	348	314	34
April	298	239	59
May	214	231	-17
June	158	271	-113
July	376	264	112
August	350	318	32
September	263	316	-53
October	271	254	17
November	297	214	83
December	304	245	59
TOTAL	**3,583**	**3,113**	**470**

Table 4: Total Flow of Electricity through Interconnections with Neighboring Countries (2010)

1.1.3 Transmission System Flows

Figure 3 below shows the total energy (GWh) flow through KOSTT transmission system in 2010 via net generation from TPP Kosovo A & B (90%), net generation from HPP Ujmani (2%) and Net Imports (8%) from neighboring countries as detailed in the previous sections. In aggregate, these sources supplied a total of 5594 GWh to the transmission system.

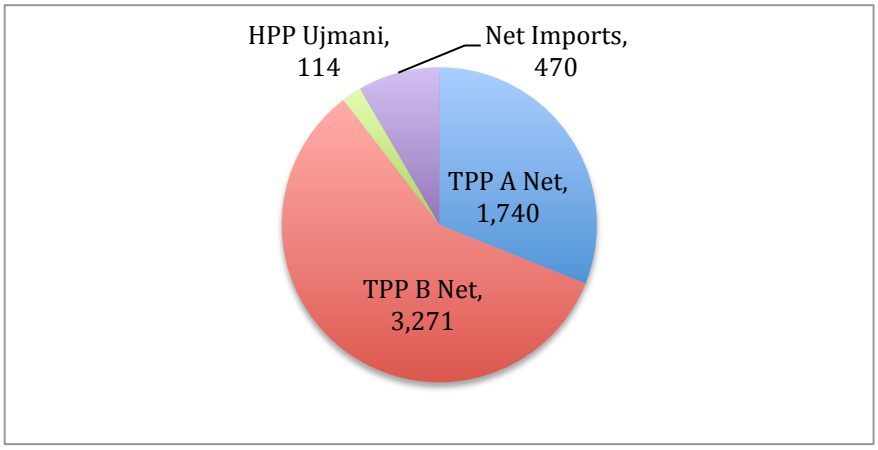


Figure 3: Total Energy Supplied to KOSTT Transmission System in 2010 (GWh)

[1] Transit is defined by ENTSOE as an energy flow that occurs in a country, which is neither the source nor the sink of the energy flow. The energy flow arrives in the grid over one border and leaves country over one or more borders [14].

Transmission system losses in 2010 totaled 131 GWh (2.3% of the net energy input). This includes the losses caused by transit. Transmission system losses have declined over recent three years as shown in *Table 5* below. These improvements are due to numerous investments over the past decade.

Year	Losses (GWh)	%
2008	215	4.3%
2009	174	3.3%
2010	131	2.3%

Table 5: Transmission System Losses (2008 - 2010) [3]

Three large industrial customers, Ferronikeli, Trepça and Sharrcemi consume electricity directly from the KOSTT transmission network. In 2010, the total consumed by these direct customers was 701 GWh [4]. Thus, the remaining 4762 GWh was supplied to the distribution system.

1.1.4 Distribution System Flows

Kosovo's electric distribution system is owned and operated by Korporata Energjetike e Kosoves (KEK). The net electricity supplied to the distribution system in 2010 totaled 4804 GWh, with 42 GWh being supplied directly by small hydro power plants (HPP) and 4762 GWh being supplied by the transmission system. The destination of this energy flow through the distribution network is shown in *Figure 4* below [3].

Technical losses in the distribution system are high (782 GWh) accounting for 16% of the total energy input. These losses occur due to inefficiencies in the network elements, lack of investment, inadequate maintenance and a large proportion of obsolete equipment [3].
Figure 4 shows that of the total 4804 GWh supplied to the distribution system in 2010, 3599 GWh (~75%) was available for sale to customers. However, only a total of 2673 GWh was actually billed to these customers [4].

Out of the available 2673 GWh, 185 GWh was supplied to he northern municipality of Mitrovice. This territory has been subjected to conflicts since the end of the war on 1999 and hence is currently beyond the reach of the billing system. The remaining 926 GWh are classified as 'commercial' or 'un-accounted-for' energy losses and occur due to misuse of electricity [3]. This electricity was delivered to customers (or taken from the power system) without being paid-for or metered. The primary factors that cause this large volume of commercial losses are deficiencies in billing procedures and non-collection of unpaid bills [11].

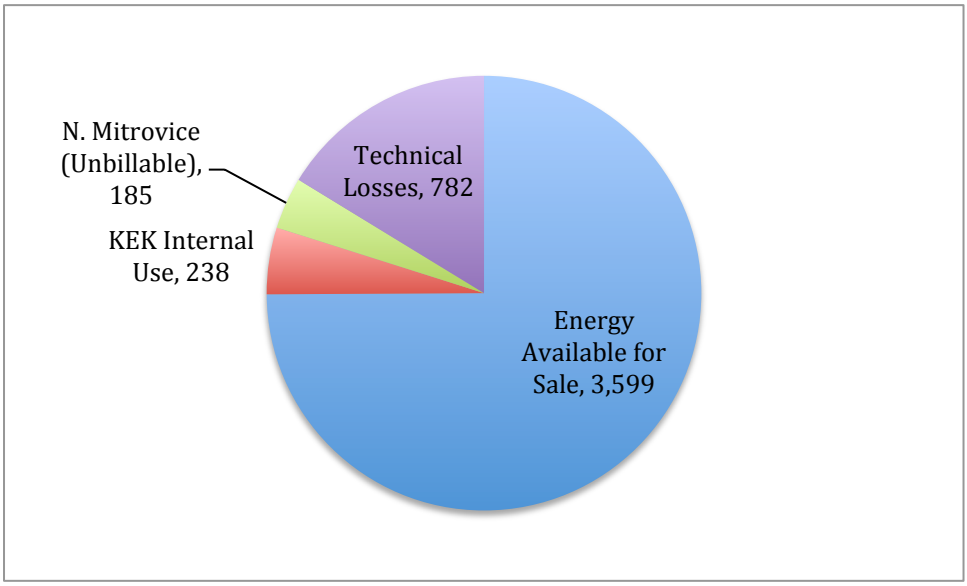


Figure 4: Energy Available (Sale & Other Flows) through Distribution Network in 2010 (GWh)

1.1.4 Electricity Balance

The net energy flows in and out of the Kosovo electricity system are summarized in *Figures 5 and 6*, respectively. Summing the total in either figure gives an estimate of the total consumption of electricity in the Kosovo grid in 2010 of 5636 GWh[2].
Total losses in the system are 1839 GWh, which account for ~33% of consumption (2.3% from transmission system losses, 14% from technical losses in the distribution system, 16% from commercial 'un-accounted-for' losses).
The ratio of transit of electricity (estimated to be 3113 GWh in Section 1.1.2) to total consumption is ~55%. This ratio is very high and leads to transmission system losses as well as network congestion. Although an ITC (inter transmission-system-operator compensation) mechanism has been established to compensate transmission system operators for this transit, Kosovo has not been included due to issues with Serbia [3]. As a result, losses caused by transit are instead recovered through fees to regulated customers.

It should be noted that this electricity balance was done based on data from the supply-side, and thus reflects the actual energy delivered to customers. However, often the true demand for electricity in Kosovo is higher than the energy available. As a result, Kosovo is subject to daily periods of planned outages during hours when the energy demand cannot be met by supply due to insufficient generation, transmission capacity or financial means for energy imports (4).

[2] ENTSOE defines 'electricity balance' as the consumption of electricity computed from the supply side. It is calculated as the sum of Net Production plus Net Imports. Due to the fact that consumption is computed from the supply side, the electricity balance includes distribution and transmission system losses [14].

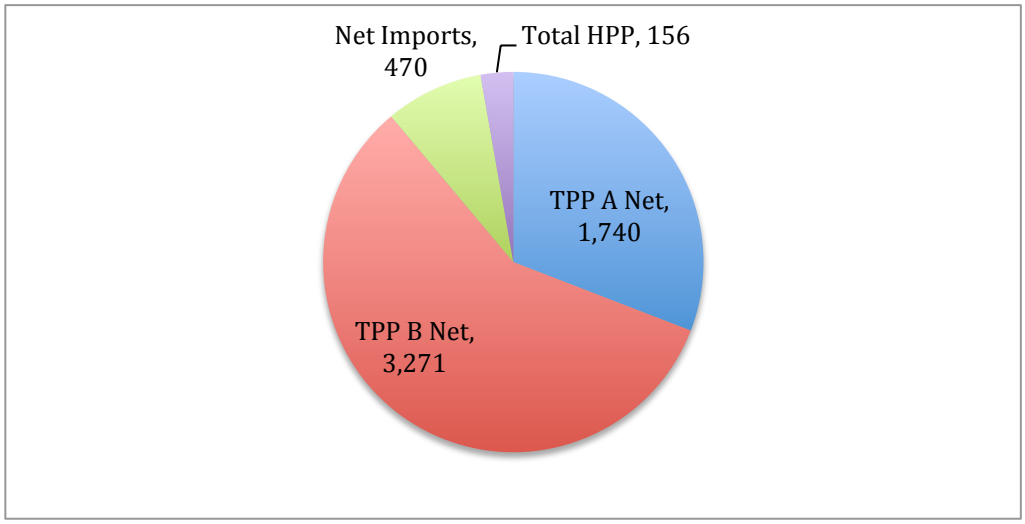


Figure 5: Net Energy Inputs to Kosovo Electricity System 2010 (GWh)

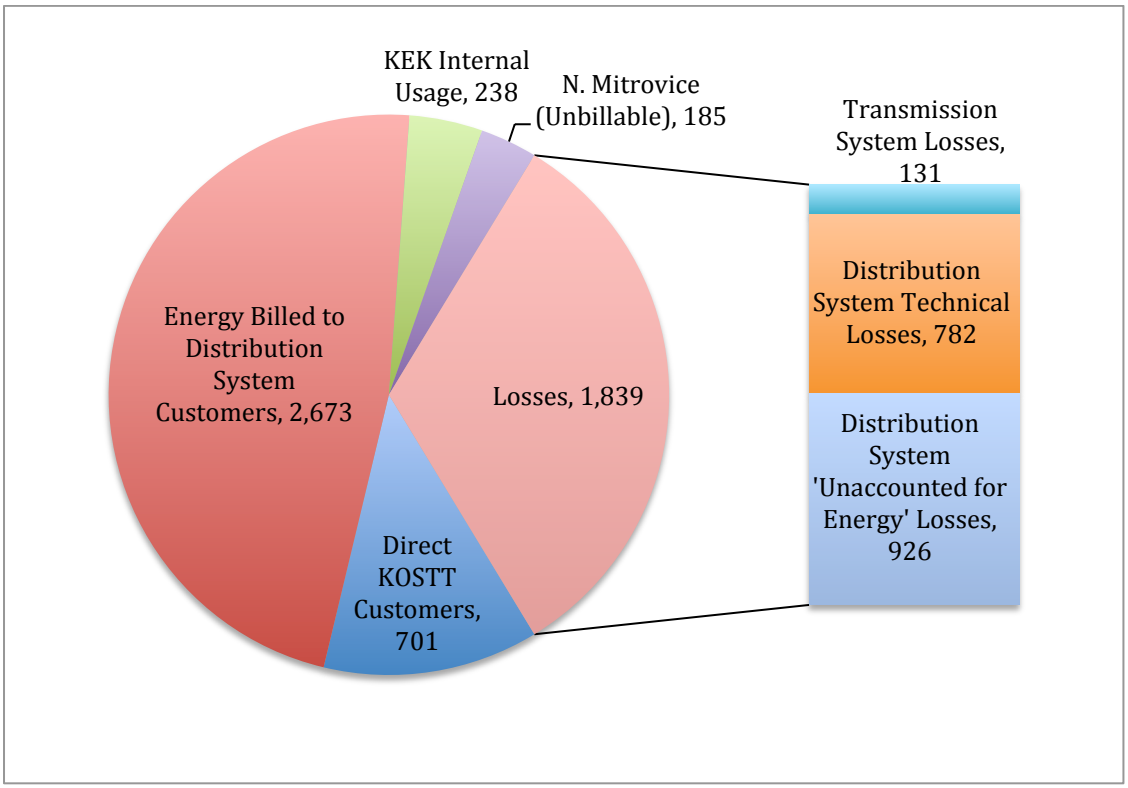


Figure 6: Net Energy Outputs from Kosovo Electricity System 2010 (GWh)

1.2 Forecast of Demand and Generation, 2010-2020

1.2.1 Demand Forecast

The long-term energy balance for Kosovo is modeled by KOSTT. This balance includes forecast scenarios for the growth in electricity demand based on growth in GDP and correlations with

electricity use, implementation of efficiency programs, more efficient billing and other economic factors [15,11]. Three forecast scenarios, which estimate the total consumption and peak load for 2011-2020 are presented in the general adequacy plan [11]: a 'base scenario' corresponding to annual GDP growth of 3.2%, a 'low growth' scenario corresponding to annual GDP growth of 1.7%, and a 'high growth' scenario corresponding to annual GDP growth of 4.7%. *Table 6* below shows KOSTT's estimates for the Gross Demand (GWh) and Peak Load (MW) corresponding to these three scenarios [3]. The estimates for Gross Demand and Peak load in 2010 shown here are based on data from [4] and [3], respectively.

Total Consumption (GWh)	2010*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average Growth
Base Scenario	5636	5916	6144	6323	6499	6674	6853	7035	7210	7381	7530	3.04%
High-Growth Scenario	5636	6010	6280	6550	6832	7112	7404	7655	7916	8177	8430	4.10%
Low-Growth Scenario	5636	5760	5904	6046	6167	6290	6416	6544	6655	6762	6890	2.21%

Peak Load (MW)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average Growth
Base Scenario	1126	1175	1190	1220	1250	1283	1310	1340	1365	1390	1410	2.53%
High-Growth Scenario	1126	1183	1215	1250	1290	1330	1375	1415	1460	1510	1550	3.41%
Low-Growth Scenario	1126	1145	1155	1175	1195	1215	1240	1260	1280	1300	1320	1.91%

Table 6: Demand Forecast Scenarios (2011-2020)

The values in *Table 6* reflect the 'gross latent consumption' that includes the demand for electricity, which was previously shed due to forced outages [15]. The Base Scenario, High-Growth Scenario and Low-Growth Scenario are derived from a complex mathematical model which inter-relates corrective factors to the correlation of electricity demand to GDP [11]. Key factors include:

- Implementation of Law No.04/L –016 on Energy Efficiency
- Reduction of commercial losses as a result of more efficient billing and metering procedures
- Forecast of technical losses in the transmission and distribution networks
- Survey of expected growth from industrial and service sectors

The Statement of Security Supply for Kosovo [3] separates the Base Scenario for Gross Consumption into six categories: residential, industrial, services, distribution system losses, transmission system losses and commercial losses. This breakdown is replicated in *Table 7* below. Similar data was not available for the High-Growth and Low-Growth scenarios.

Analysis of the KOSTT Base Scenario in *Table 7* yields the following observations:

- Technical losses in the distribution are forecast to decrease from 14% to 11% of total consumption from 2011-2020
- Commercial losses in the distribution system are forecast to decrease dramatically from 17% to 1% of total consumption from 2011-2020
- Transmission system losses are forecast to remain at ~3% of the total consumption during the period 2011-2020
- The Total Losses (sum of technical, commercial and transmission) are forecast to decrease from 34% in 2011 to 15% in 2020. This represents an annual average decrease of ~6%

The KOSTT Base Scenario presented here is used through the remainder of this report as a basis for forecasting the energy demand in Kosovo.

Base Scenario of Total Consumption (GWh)	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Domestic consumers (residential)	2051	2248	2513	2704	2893	3095	3258	3413	3560	3701
Commercial consumers (services, etc)	568	627	675	711	762	816	860	904	946	995
Industrial consumers	1266	1332	1348	1405	1445	1487	1524	1575	1631	1674
Technical losses in distribution	818	886	895	891	898	898	890	874	862	846
Commercial losses	1032	860	695	585	467	343	281	216	148	75
Transmission losses	180	190	197	203	209	215	222	228	235	241
TOTAL	**5915**	**6143**	**6323**	**6499**	**6674**	**6854**	**7035**	**7210**	**7382**	**7532**
Technical losses in distribution (% of total consumption)	14%	14%	14%	14%	13%	13%	13%	12%	12%	11%
Commercial losses (% of total consumption)	17%	14%	11%	9%	7%	5%	4%	3%	2%	1%
Transmission losses (% of total consumption)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Total Losses (GWh)	**2030**	**1936**	**1787**	**1679**	**1574**	**1456**	**1393**	**1318**	**1245**	**1162**
Total Losses (% of Total Consumption)	34%	32%	28%	26%	24%	21%	20%	18%	17%	15%

Table 7: Estimation of System Losses in the KOSTT Base Scenario for 2011-2020

1.2.2 Generation Forecast

In July 2009, the Government of Kosovo articulated a five-pronged strategy to meet rising energy needs. This strategy is comprised of: (a) private sector investment in a new lignite-fired power generation project, (b) privatization of the electricity distribution and supply business, (c) private sector participation in rehabilitation and environmental upgrade of the Kosovo B Power Station (derated capacity of about 560 MW), (d) decommissioning of the Kosovo A Power Station by 2017, and (e) development of renewable resources (including small hydropower plants, wind, solar, biomass).

With TPP Kosovo A reaching the end of its useful life by 2017, the development of a new thermal power plant (New Kosova Power Plant) is proposed to begin between 2011/2012 [11]. The design for this plant is comprised of two units (G1 and G2) with installed capacity of 2x300 MW. The first of these units is expected to become operational in late 2016, and the second unit six months to a year later [3,11]. The Ministry of Energy and Mining in Kosovo also estimates that a third new power plant (G3) with a capacity of 400 MW will be needed to meet growing electrical demand by 2018 [15].

In addition to the proposed New Kosova Power Plant, upgrades are planned to improve the capacity of TPP Kosovo B. It is anticipated that these units will be rehabilitated in 2016 – 2017,

including investments required to meet the emission standards required by the European Union Directive for Large Combustion Power Plants [3,16]. It's estimated that the placement of new rotors in both B1 and B2 will provide for a reduction of unused capacities to only 10 MW per unit, in reference with their nominal capacity [11].

The Ministry of Energy and Mining (MEM) has determined indicative targets of renewable energy resources to be integrated into the Kosovo power grid through the Governmental Program for Clean and Efficient Energy. They program has presented a base scenario which includes expanded hydro resources, wind, biomass and solar photovoltaics [3,11,15]. This scenario is presented below as it pertains to Kosovo's energy strategy. Our investigation of the potential for each of these resources is examined further in Section 2 of this report.

MEM 'base scenario' for renewable energy resources to be developed by 2020:

- The MEM base scenario foresees the development of a known accumulating hydro power plant project, HPP "Zhur", with an installed capacity of 305 MW. This project is expected to be operational by 2016. It is estimated that HPP Zhur could produce ~398 GWh per annum [11].

- Development of an additional 20 'small' HPP is expected to contribute 140.3 MW by 2020 [3,11].

- Three private wind developers have submitted project applications to KOSTT with a combined total capacity of 157 MW [11.1]. MEM estimates that from these projects, 141 MW of wind energy capacity will be installed on the Kosovo grid by 2020 [3].

- The development of biomass and urban waste fuelled power plants is envisaged to start in 2012, with progressive capacity development reaching 16.5MW by 2020 [11].

- Estimates of the potential for installed solar photovoltaic (solar) capacity are low – primarily due to a perception of too-high capital costs [11]. The MEM base scenario envisages only 0.8 MW of solar capacity on the Kosovo grid by 2020 [3].

The MEM base scenario for new generation capacity is summarized in *Table 8* below.

	Unit	Installed Capacity	In Operation
New TPP	G1	300.0	Q1 2016
	G2	300.0	Q1 2017
	G3	400.0	Q1 2018
New Renewable Energy Capacity	HPP Zhur	305.0	Q1 2016
	Small HPP	140.3	Q1 2010 - Q4 2020
	Wind	141.0	Q1 2010 - Q4 2020
	Biomass	16.5	Q1 2012 - Q4 2020
	Solar	0.8	Q1 2017 - Q4 2020

Table 8: MEM Base Scenario for New Generation Capacity (2010 – 2020)

2. Electricity Resources: Availability, Cost and Environmental Quality

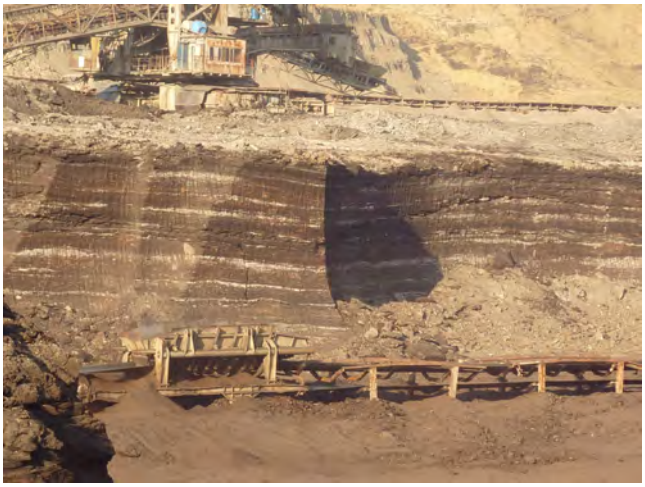
2.1 Fossil Fuels

2.1.1 Coal

Coal is the primary source for electricity generation in Kosovo. Over 90% of the demand is supplied through the two thermal power plants Kosovo A & B. Domestic lignite reserves are estimated to amount to 12.5 billion tones, of which 10.9 billion tones are exploitable. Kosovo's coal reserves consist of Lignite (also known as brown coal). Lignite has the lowest carbon content and the highest amount of moisture. It's geologically younger than other forms of coal, and mostly used in power generation. Brown coal is the dirtiest coal type as the process converting it into usable energy is very intensive. Though abundant the quality of the lignite is fairly poor and its use in electricity generation releases an average of 5.8 million tons of CO_2 into the atmosphere annually. With the planned construction of a new power plant, it is possible that Kosovo could be responsible for annual CO2 emissions as high as 22.5 million tons [16].

Above: Coal in the Kosovo mine

Below: Kosovo coal mine



Above: Kosovo A

Below: Kosovo B

2.1.2 Oil & Natural Gas

Kosovo has no domestic crude oil resources. In 2010 Kosovo imported 566,000 ton of oil products. The one small oil processing plant has a capacity of around 100,000 tons per year, which uses gasoline and some lighter distillates as raw material and produces diesel, residual fuel oil and LPG. In 2010 this plant provided less than 4% of the total oil product import [11,1]. Kosovo is not linked to an operational natural gas supply network. A connection to natural gas supply would be an important option to diversify fuel supply in the country and to increase security of supply, but there are currently no projects planned. Gas supply and consumption in Kosovo is therefore limited to bottled LPG (liquefied petroleum gas) [11.1].

2.2 Hydroelectricity

In this study two different hydro resources will be analyzed: An aggregate of distributed small hydro resources (river run) and a larger proposed utility scale hydro power plant.

2.2.1 Small Run-of-the-River Hydro

One feasibility study on the water resources for small hydro power plants [7] shows a potential of 63 MW aggregated hydro capacity with a total annual production of 300 GWh. *Table 9* shows the proposed HPPs and their respective capacities. The ERO Office in Kosovo forsees an even larger development of small hydropower plants (> 16) reaching a capacity of 140.3 MW by 2020 [3].

River	HPP	Capacity (MW)	Production (GWh)
Peja	Kuqishtë	3.9	19.0
	Drelaj	6.2	29.6
	Shtupeq	7.6	37.2
Decani	Bellaje	5.2	26.1
	Decani	8.3	40.7
Llocani	Llocani	3.1	14.4
Erenik	Mal	3	18.6
	Erenik	2	9.5
	Jasiq	1.9	9.9
Plave	Dragash	2.2	11.5
	Orcush	5.6	29.2
Prizreni	Recan	1.5	7.9
Lepenc	Brezovica	2.1	11.5
	Lepenci	3.5	19.1
Bajska	Bajska	0.3	1.7
Bistrica	Batare	1.1	5.6
Kacandoll	Majanc	0.6	3.1

Drini+Decani	Mirusha	4.6	28.1
Total Small HPPs		62.7	322.8

Table 9: The proposed Small HPP

2.2.2 Large dam-based hydropower

The proposed hydropower plant Zhuri will be located in the southwest of the municipalities of Prizren and Dragash, with an estimated capacity of 305 MW and an average annual production of ~ 400 GWh [3]. The data for the two Zhur plants are presented in *Table 10*.

	Capacity (MW)	Production (GWh)
Zhur 1	2 x 131	342.2
Zhur 2	43	55.39
Total	305	397.6

Table 10: Capacity and Estimated Production for Proposed Zhur HPP

This 305 MW power plant (estimated capacity factor ~15%). has been proposed as a peaking plant to help compensate for the variability in Kosovo's demand. A common practice in developed countries is to designate gas fired plants as peaking power plants due to their ability of quick adjustments in production. However in the absence of a gas reserves or a gas pipe line in Kosovo, and the inability of the existing coal power plants to quickly and reliably adjust production, the Zhur plant can be operated as a peaking plant. Moreover the profile of this hydro resource is similar to the demand profile (coincidental peaks) and this brings a big advantage to the HPP. *Figure 8* shows the location of the proposed small HPPs as well as the Zhur power plant.

Figure 8: Spatial Distribution of Proposed HPP

2.3 Wind

Studies on the wind energy potential of Kosovo vary widely. One study [8] was based on meteorological data collected at 10 potential project sites throughout the country. 7 of these 10 sites were found to have wind speeds to slow for commercial viability. Of the remaining 3 locations, the highest wind speed was measured at BBUD, in Budakova. The modeled wind resource at this location is shown in the *Figure 9*. The estimated annual average wind speed at 38 meters is estimated to be 6.9 m/s.

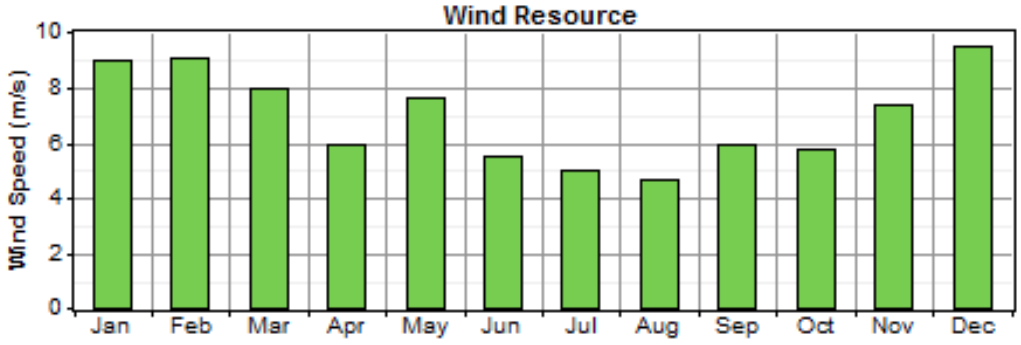


Figure 9: Annual wind speed in Budakova

Another study [8] uses computer modeled data to calculate the wind speed in the municipalities of Lipjan and Dukagjin however since the values are not real measured valued we base our model on the more reliable measured data for Bukadova. Figure 10 shows the two potential sites for wind farms.

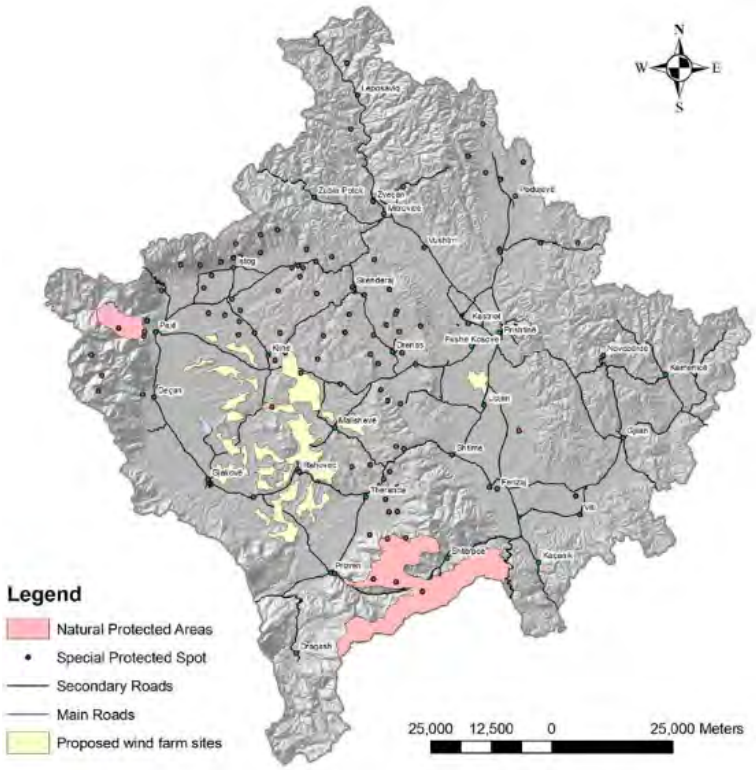


Figure 10: Available sites for potential wind farms

2.4 Solar

The annual radiation on a solar collector panel directed towards south and with an optimum inclination of 35 degree (calculated optimum inclination) varies between 1550 kWh/m2/year and 1650 kWh/m2/year in Kosovo [10]. This range can be seen on the solar map for the South East Europe in *Figure 11*. The variation between the various municipalities is less than 10%. For design purpose it can be considered that the solar radiation is the same all over Kosovo and equal to 1600 kWh/m2/year for an ideally located solar collector.

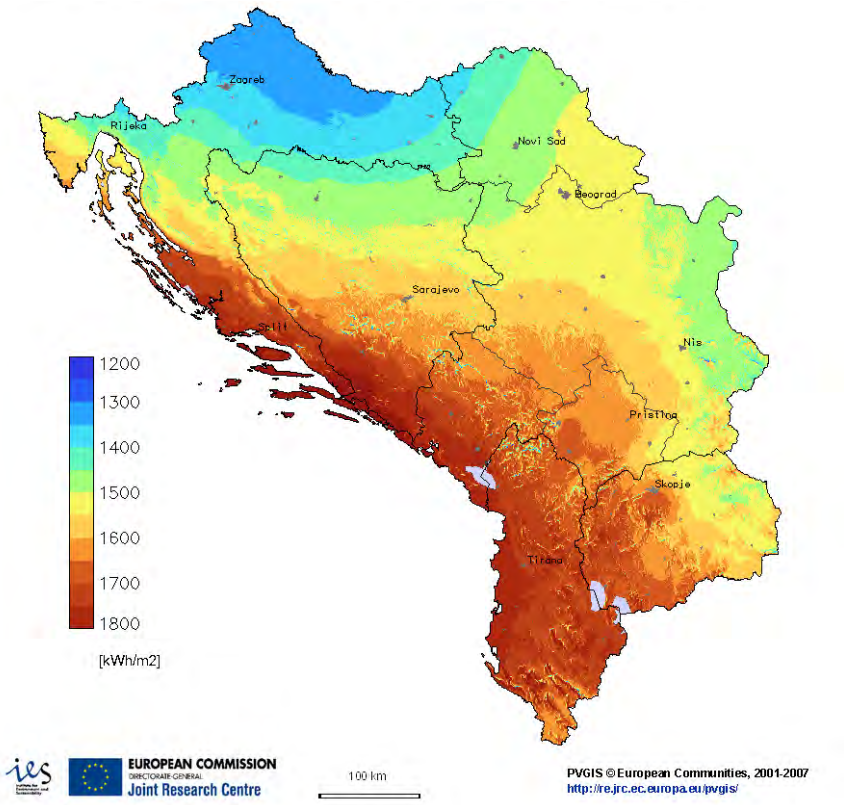


Figure 11: Solar radiation in Balkan region, optimum inclination and direction

2.5 Biomass

The theoretical energy potential from biomass resources is shown in Table 11. [9]

Type of resource	Resource	GWh/y
Biomass, wood	0.9 mill m3	2812
Biomass, livestock	352.000 cattle, 152.000 sheep/goats	1363
Biomass, agriculture	0.30 mill ton straw	1200
Solid waste	0.44 mill ton	1229
Total		6604

Table 11: Theoretical renewable energy resources in Kosovo, GWh/year

Assumptions made for the theoretical energy potential are:

- Max annual sustainable wood cut, 30 % moisture, oak and beech
- All livestock waste utilized and maximum theoretical biogas production,
- All straw utilized, 15% moisture
- All solid waste utilized

The study estimated the total theoretical annual energy from biomass resources within Kosovo to be ~6600 GWh/yr.

2.6 Geothermal

There are no studies available on the geothermal potential within Kosovo, however the neighboring countries (Macedonia and Serbia) have a history of using geothermal as an energy resource. In Macedonia the potential for geothermal energy production is estimated at 210,000 MWh per year and currently there are more than 14 geothermal sites used for heating load. In Serbia there are more than 60 geothermal systems with temperatures lower than 150 C. The estimated energy reserves of geothermal resources in Serbia are around 800 MWh [20]. *Figure 12* shows the heat flow map and distribution of major convective geothermal systems in Serbia and Kosovo.

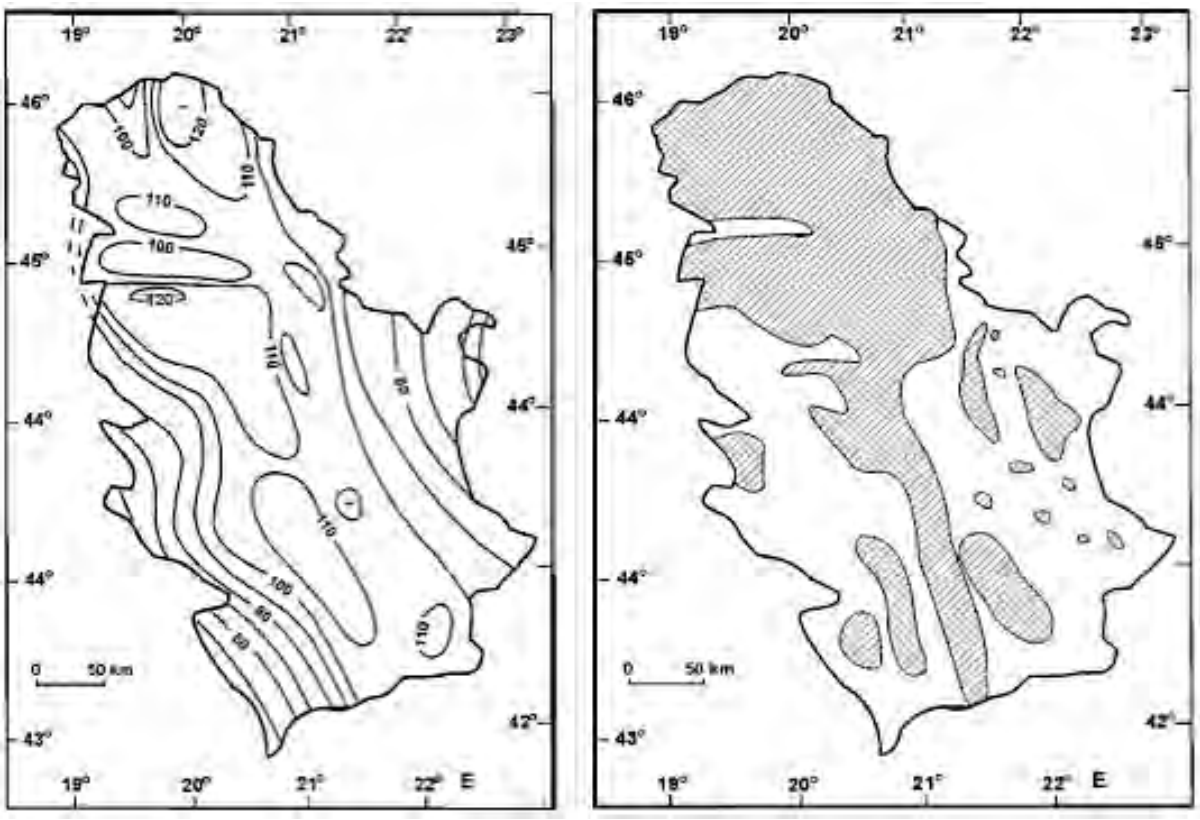


Figure 12: Heat flow map & distribution of major convective geothermal systems in Serbia and Kosovo

2.7 Energy Efficiency

The World Bank has listed Kosovo as a non energy-efficient country, and very little progress has been made to improve energy efficiency to date. European Union (EU) integration requirements include that Kosovo must improve energy efficiency by 20 percent by 2020, according to a USAID study in 2008 [21] found that laws and regulations regarding energy efficiency in Kosovo, and policies and programmes to stimulate implementation of EE projects (for example, subsidies, strategies and information programmes) have been only partially implemented or not

implemented at all. And up until the date of this report no countrywide assessment of energy efficiency potential appears to be undertaking.

In 2010 United Nations Development Program (UNDP) carried out an energy assessment on the municipality of Dragash that showed a potential of 26 GWh saving per year from Energy Efficiency measures such as (CFL lighting, Thermal Insulation) [22]. *Table 12* shows the energy consumption and CO_2 emission prior and post study.

	Energy Consumption (GWh/y)	CO_2 Emission (Ton/y)
Before EE measures	123.7	41376.6
After EE measures	97.78	37013.6
EE Gains	25.92	43.63

Table 12: energy consumption and CO_2 emission before & after EE measures

It's worthy to note that the total energy saving in Dragash was equal to 20% of consumption. This shows a large energy saving potential if the EE measure were to be adopted throughout the country.

2.7.1 Grid Efficiency

As discussed in Section 1.1, the transmission and distribution grid inefficiencies in Kosovo contribute to a large energy loss in the country. In 2010 total losses in the system constituted around ~33% of consumption. From the total of 33%, 2.3% were transmission losses, 14% were technical losses in the distribution system and 16% commercial 'un-accounted-for' losses). This figure does not include the unbilled energy supplied to the municipality of Mitrovice.

This means the Kosovo citizens who actually pay their bills are in fact bearing the extra cost for this 33% energy loss. This is not only a large inefficiency in the system but also raises equity and consumer right issues.

2.7.2 Demand-Side Management

KEK has started installing digital meters throughout its jurisdiction. So far from over 400,000 KEK customers 30,000 have received smart meters. This program aims to reduce electricity theft throughout Kosovo. (Awaiting data from KOSTT on consumption data prior/after meter installation, 40+ meters have been installed at Ferronikeli. Sharcemit and Trepca Sep 2008).

2.8 Funding Mechanisms

A variety of opportunities exist to provide support for sustainable energy development in Kosovo. The European Union, the World Bank (including the International Development Association), and the efforts of individual donor nations working individually or ideally in partnership are a few among all. The energy sector in Kosovo will require significant investment,

both financial, and also in terms of capacity support, irrespective of what energy plan is pursued. In this report, we assess a wide set of costs and of benefits for different paths. Of particular long-term interest and importance are efforts built around regional cooperation in terms of both resource management (e.g. cross-boarder sustainable hydropower and wind energy, and potentially geothermal resource exploration and utilization), but also of cooperative regional power pools.

3. Power Supply Simulation Analysis

Kosovo's electric power generation system was modeled using HOMER – a hybrid system optimization software package developed by the U.S. National Renewable Energy Laboratory. HOMER simulates a power system's physical behavior (60 minute time step) and life-cycle cost.

The simulations of Kosovo's electric power system presented in the sections below reflect data gathered and synthesized from a number of sources. Key assumptions are stated in each section.

3.1 Simulation of Kosovo's Current Electric Power System (2010)

3.1.1 Key Assumptions

Data on the diurnal cycle of electricity consumption was modeled based on data obtained from [5]. A representative daily consumption profile is shown in *Figure 13*. This data was used along with monthly consumption data from [4] to create a model of the total electrical consumption.

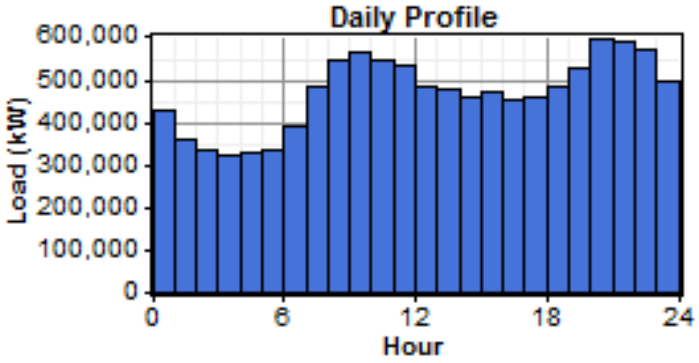


Figure 13: Modeled Daily Consumption Profile (2010)

The efficiencies of TPP Kosova A and B were modeled based on data obtained from Pg. 219 of [2]. The modeled efficiency curves are shown in *Figure 14* below. Note the higher efficiency of the newer Kosovo B plants. The resulting full-load fuel consumption of the TPP Kosovo A & B was estimated as 1.629 kg/kWh and 1.491 kg/kWh, respectively.

TPP Kosovo A	TPP Kosovo B

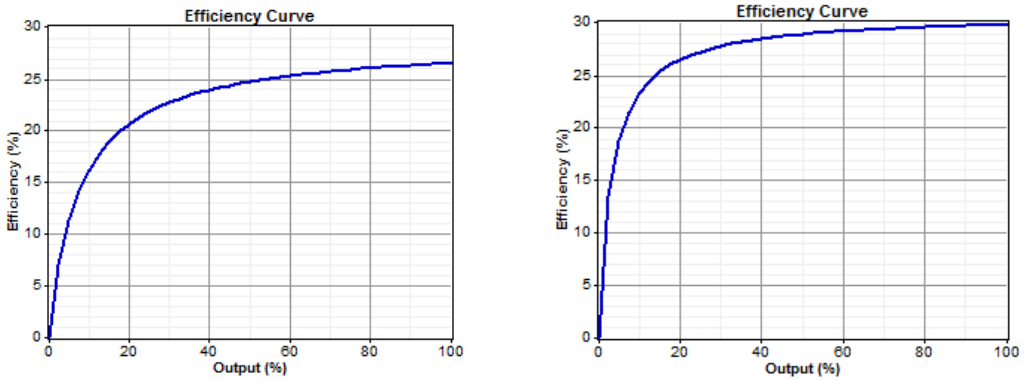


Figure 14: Modeled Efficiency Curves of Existing Kosovo TPP (2010)

Data from [2] was also utilized to model the lignite fuel used in TPP Kosovo A & B. The modeled lignite fuel properties are summarized in *Table 13.*

Lignite Fuel Properties	Kosovo A	Kosovo B
Lower Heating Value (MJ/kg)	7.75	7.86
Density (kg/m3)	753	753
Carbon Content	24.1%	24.0%
Sulfur Content	0.82%	0.77%

Table 13: Summary of Modeled Lignite Fuel Properties (2010)

Emissions factors for 'NOx' and 'Particulate Matter' were modeled based on data from [2]. Emissions factors for 'CO' were modeled based on formulae presented in [6]. Emissions factors for 'Unburned Hydrocarbons' and 'Fuel Sulfur' were modeled to reflect estimates presented in pp. 7-10 of [1]. The resulting emissions factors are presented in *Table 14* below. For this analysis, it was assumed that the emissions factors for Net Imports of electricity from neighboring countries match those of Kosovo B.

Emissions Factor	TPP Kosovo A	TPP Kosovo B	Net Imports
Carbon Monoxide (g/kg of fuel)	0.13	0.13	0.13
Unburned Hydrocarbons (g/kg of fuel)	200	200	200.00
Particulate Matter (g/kg of fuel)	6.62	0.87	0.87
Proportion of Fuel Sulfur Converted to Particulate Matter	67%	67%	0.67
Nitrogen Oxides (g/kg of fuel)	1.16	2.53	2.53

Table 14: Summary of Modeled TPP Emissions Factors (2010)

3.1.2 Simulation Results

The total consumption data presented in Section 1.1 (*Figure 6*) was separated into two loads in HOMER:

- 'Total System Losses' which incorporates the transmission system losses, technical and commercial losses in the distribution system

- 'Primary Energy Consumption' which incorporates the energy billed to customers, KEK direct usage, energy supplied to N. Mitrovice and direct KEK customers

The resulting monthly profiles for these two loads are summarized in both *Figure* 15 and *Table* 15 below.

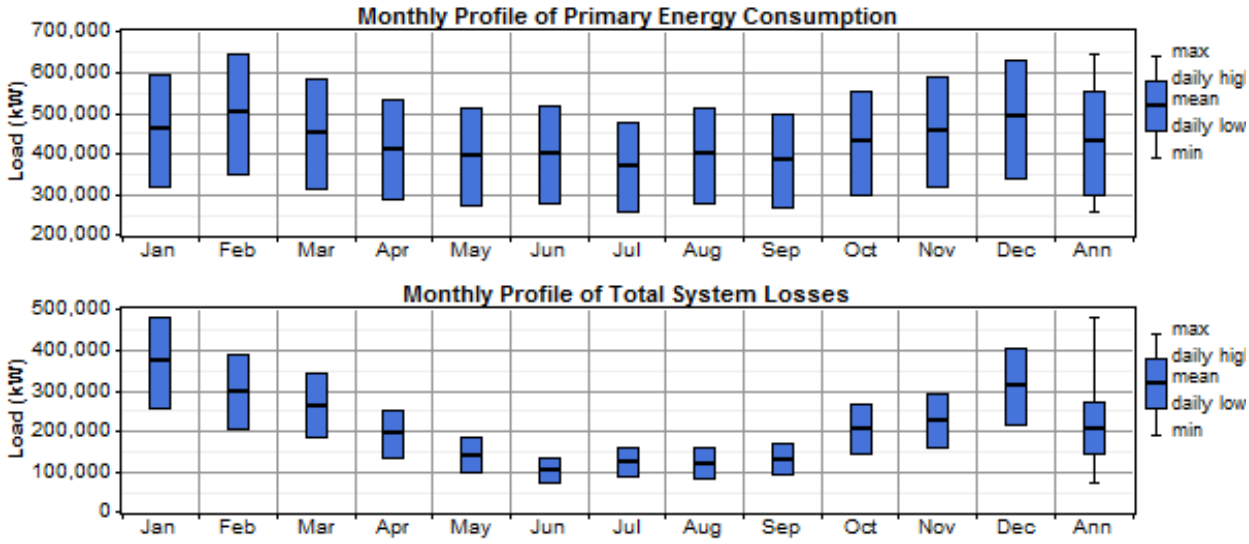


Figure 15: Modeled Monthly Primary Consumption and Loss Profiles (2010)

		Total Primary Consumption		Total Losses	
	Days	Total (MWh)	Average (kWh/day)	Total (MWh)	Average (kWh/day)
January	31	347,394	11,206,258	279,085	9,002,742
February	28	340,004	12,143,000	203,192	7,256,857
March	31	339,196	10,941,806	198,318	6,397,355
April	30	299,740	9,991,333	141,865	4,728,833
May	31	297,207	9,587,323	106,780	3,444,516
June	30	291,543	9,718,100	75,983	2,532,767
July	31	277,773	8,960,419	93,567	3,018,290
August	31	299,718	9,668,323	91,054	2,937,226
September	30	281,001	9,366,700	94,531	3,151,033
October	31	322,624	10,407,226	155,923	5,029,774
November	30	332,770	11,092,333	165,126	5,504,200
December	31	367,100	11,841,935	234,912	7,577,806
Total		**3,796,070**		**1,840,336**	

Table 15: Modeled Monthly Primary Consumption and Loss Profiles (2010)

The existing hydro power plants (HPP) in *Table 2* were modeled to match monthly production estimates given in [4]. Simulation results show a mean output of ~ 18 MW with an overall capacity factor of 42% as seen in both *Figure 16* and *Table 16*. The total production from existing HPP is estimated at 156 GWh/yr (2010).

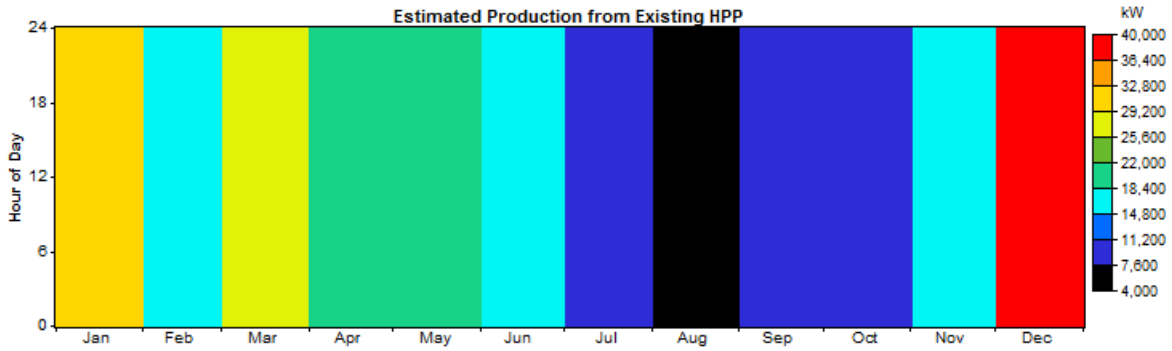


Figure 16: Modeled Monthly Generation from Existing HPP (2010)

Modeled Production of Existing HPP		
Nominal capacity	42	MW
Mean output	18	MW
Capacity factor	42	%
Total production	156	GWh/yr

Table 16: Modeled Monthly Generation from Existing HPP (2010)

Kosovo's electricity generation system was modeled given the key assumptions presented in Section 3.1.1 as well as the net generation capacities specified in *Tables 1, 2 and 4*. Simulation results for the total net generation and fuel use of each generator is shown in *Table 17* below. HOMER optimizes the dispatch of each generator according to its efficiency, thus the relative percentage of power generated by each of TPP Kosovo A3 – A5 may not match actual figures. However, the total annual energy generated by TPP A matches data given in [11]. The same holds true for results presented for TPP Kosovo B.

Production	Net Generation (GWh/yr)	% of Total Generation	Fuel Consuption (million tons)
HPP	156	3%	
KSA3	750	13%	1.39
KSA4	603	11%	1.11
KSA5	386	7%	0.71
KSB1	1,991	35%	3.36
KSB2	1,280	23%	2.16
Imports	470	8%	
Total	**5,637**	**100%**	**8.74**

Table 17: Summary of Modeled Net Generation and Fuel Use (2010)

The simulated greenhouse gas emissions from Kosovo's current generation system are presented in *Table 18*. In addition, the assumed Global Warming Potential (GWP) of each pollutant is shown for reference. The GWP is a relative scale which compares each gas to an equivalent mass of CO2. Multiplying each pollutant by its GWP and summing them together gives an estimate of

the total emissions in CO2e (carbon dioxide equivalent) from combustion. Assumed emissions from the 470 GWh of Net Imports (2010) are included in this estimate. In total, the annual emissions of CO2e are estimated to be 51 million tonnes; with 45 million tonnes (88%) from TPP Kosovo A & B and 6 million tonnes (12%) from Net Imports.

Pollutant	GWP	Total Emissions (tons)	CO2 Equivalent (tons)
Carbon dioxide	1	6,773,657	6,773,657
Carbon monoxide	3	1,202	3,605
Unburned hydrocarbons	11	1,922,446	21,146,911
Particulate matter	680	25,092	17,062,799
Sulfur dioxide	0.075	19,622	1,472
Nitrogen oxides	310	20,333	6,303,202
		TOTAL	**51,291,645**

Table 18: Summary of Modeled Emissions from TPP Kosovo A and B and Net Imports (2010)

3.2 Baseline Scenario - Demand and Generation Forecast (2011-2020)

In this section, a HOMER model was created to simulate the electric power system of Kosovo for the years 2011-2020. The annual consumption of electricity from 2011-2020 was modeled to match KOSTT estimates presented in *Table 7*. Key assumptions and results are presented below.

3.2.1 Key Assumptions

- TPP Kosovo A: In this simulation, it was assumed that TPP Kosovo A will remain in service through 2017. The efficiency and capacities of A3 – A5 were modeled as presented in Section 3.1.1.

- TPP Kosovo B: In this simulation, it was assumed that TPP Kosovo B will remain in service for all years 2011 – 2020. The efficiency and capacities of B1 and B2 were modeled as presented in Section 3.1.1. It was assumed that the net capacities of the power plants remain as presented in *Table 1*.

- TPP Kosovo G: It was assumed that TPP New Kosovo G1, G2, G3 will come online in 2016, 2017, 2018 respectively with installed capacities as shown in *Table 8*. It was assumed for this simulation that the efficiency curves for the new TPP G1 – G3 will be similar to those modeled for TPP B in *Figure 14*. It was also assumed that the emissions factors for TPP G1-G3 will be similar to those presented for TPP B1-B2 in *Table 14*.

- Solar Photovoltaics: The hourly solar resource in Kosovo was modeled in HOMER based on NASA telemetry data for insolation and cloudiness indices. The estimated monthly solar resource map is shown in *Figure 17* below.

  Power generation from this solar resource was modeled as a solar photovoltaic (PV) plant with 13% efficiency at STC. It was assumed that the AC derating factor (which includes DC-AC conversion efficiencies, and losses due to age, soiling, etc,) is ~87%. The solar

power plant was modeled as a fixed-tilt system, tiled to 42° above horizontal (an optimal angle given by the site's latitude).
The installed capacity of solar (PV) in this Base Scenario reaches a total of 800kW by 2020, based on estimates by MEM presented in Section 1.2.2. of this report. It was assumed that this 800 kW capacity is brought online linearly over the period 2011-2020.

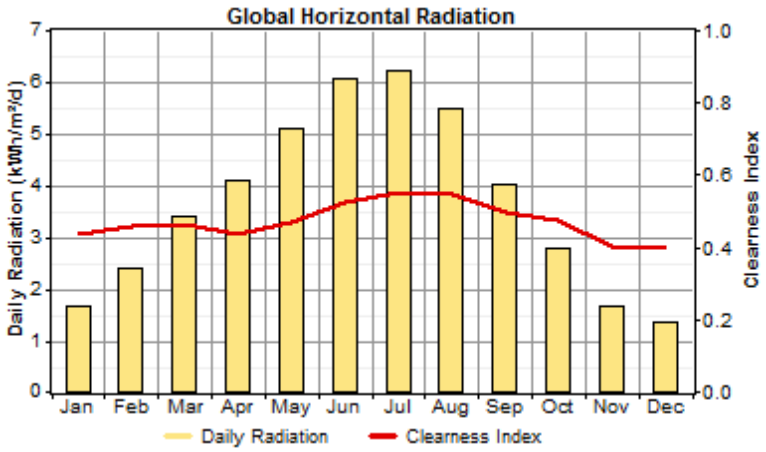


Figure 17: Modeled Solar Resource for Kosovo

- Small hydro power plants (HPP): The current installed capacity of small HPP in 2010 is ~ 42 MW. For this simulation, it was assumed that an additional capacity of 140.3 MW is installed by 2020 based on estimates by MEM presented in Section 1.2.2. The monthly variation in hydro resource was based on production estimates for 20 potential small HPP given in [7]. The simulated monthly average power generation (in MW) of the aggregate 182.3 MW capacity of small HPP is shown in *Figure 18* below. It was assumed that the capacity of installed small HPP is scaled from 42 MW to 182.3 MW linearly between 2010 and 2020.

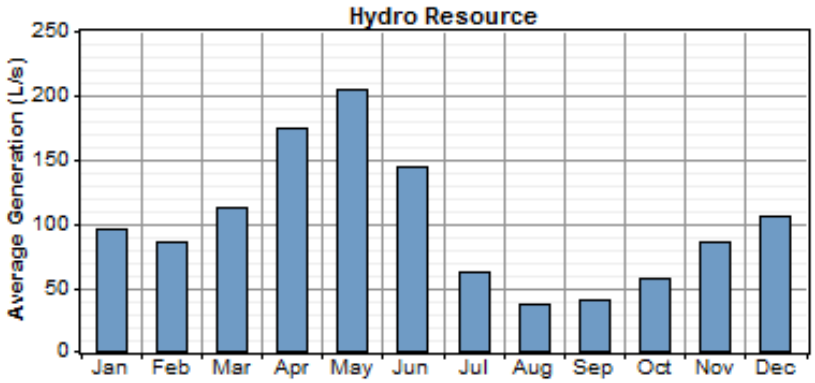


Figure 18: Modeled Average Power Generation by Month for 182.3MW of Small HPP

- HPP Zhur: It was assumed for this simulation that HPP Zhur is brought online in 2016. The Zhur HPP was modeled with an installed capacity of 305 MW and a capacity factor of 15% as shown in Section 2.2.2. of this report.

- Biomass: The MEM base scenario estimates the development of biomass and urban

waste fuelled power plants to reach an installed capacity of 16.5 MW by 2020 [11]. The biomass resource was modeled in this scenario as a biogas generator with a capacity factor of ~ 58%. The emissions factors of the biogas generator were based on reference data provided by HOMER. These emissions factors are presented in *Table 19* below. In this simulation, it was assumed that this 16.5 MW capacity is brought online linearly over the period 2011-2020.

Emissions Factors	
Carbon Monoxide (g/kg of fuel)	6.5
Unburned Hydrocarbons (g/kg of fuel)	0.72
Particulate Matter (g/kg of fuel)	0.49
Proportion of fuel sulfur converted to PM (%)	2.2
Nitrogen Oxides (g/kg of fuel)	58

Table 19: Estimated Emissions Factors for Biogas Generator

- Wind: The MEM base scenario presented in Section 1.2.2. of this report shows an installed wind energy capacity of 141 MW by 2020. In this simulation, the wind resource was modeled as shown in *Figure 9*. The wind turbines were modeled as RE Power MM92 machines with installed capacity of 2MW. The modeled power curve for the MM92 turbine is shown in *Figure 19*. In [11] it was shown that the assumed capacity factor of this 141 MW of wind is ~25%. In this simulation, the annual average wind speed at 37m was scaled down from 6.94 m/s to 5.35 m/s in order to match this 25% capacity factor estimate.

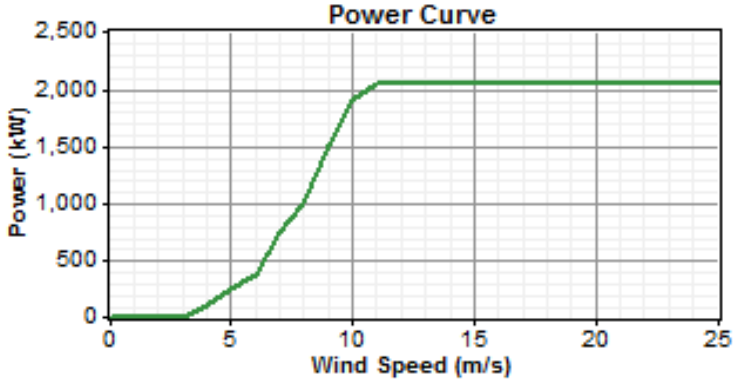


Figure 19: Modeled Power Curve for RE Power MM 92 Turbine

3.2.2 Simulation Results

The simulated net generation forecast for the 'base scenario' from 2010 – 2020 is summarized in *Table 20*. In this simulation, the generators are dispatched such that renewable generation gets priority, and thus 100% of the energy generated from renewables goes toward meeting the Total Consumption. The lignite TPP are dispatched based on their efficiency. Thus, smaller capacity TPP are favored by HOMER for meeting lower loads, due to their higher relative efficiency. The TPP are only dispatched to meet the gap between the Total Consumption and the energy generated by renewables. Thus, this simulation produces no net exports and the Total

Consumption is equal to the Total Net Generation.

In this scenario, by 2020 the total energy generated from renewables is 1676 GWh – which is equivalent to 22% of the Total Net Generation. Generation from hydro power plants accounts for 17% of the Total Net Generation, while Bio+Wind+Solar contribute 5%. With this high percentage of power being generated by renewables, our simulation shows that very little power is required from TPP G3 (only 376 GWh in 2020 – which represents a capacity factor of only 11%).

Net Electricity Generation (GWh): Base Scenario	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
TPP Kosovo A3-A5	1740	1740	1739	1739	1739	1740	1739	1739	0	0	0
TPP Kosovo B1-B2	3271	3461	3527	3568	3595	3627	3298	3275	3975	3998	4002
TPP Kosovo G1-G2	0	0	0	0	0	0	388	693	1448	1464	1483
TPP Kosovo G3	0	0	0	0	0	0	0	0	350	370	376
Total TPP	**5010**	**5201**	**5267**	**5307**	**5335**	**5366**	**5425**	**5708**	**5773**	**5832**	**5861**
Small HPP	157	229	302	374	447	519	592	664	737	809	881
HPP Zhur	0	0	0	0	0	0	401	401	401	401	401
Total HPP	**157**	**229**	**302**	**374**	**447**	**519**	**992**	**1065**	**1137**	**1210**	**1282**
Biomass	0	8	17	25	34	42	50	59	67	75	84
Wind	0	2	32	68	99	134	169	205	240	271	311
Solar	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total Bio + Wind + Solar	**0**	**10**	**49**	**93**	**132**	**176**	**220**	**263**	**307**	**346**	**395**
Total Renewables	**157**	**239**	**351**	**467**	**579**	**695**	**1212**	**1328**	**1444**	**1556**	**1676**
Total Net Imports	470	476	527	549	586	613	217	0	0	0	0
Total Net Generation	**5637**	**5917**	**6144**	**6324**	**6500**	**6675**	**6854**	**7036**	**7218**	**7388**	**7537**

Assumptions:
141MW Wind by 2020
140MW new hydro by 2020 (182 including existing capacity)
HPP Zhur online in 2016 with 15% cf
800kW PV by 2020
16.5MW Biomass by 2020

Table 20: Simulated Net Electricity Generation for 'Base Scenario' 2010-2020

3.3 Low Carbon & EE – Demand and Generation Forecast (2011-2020)

This section was created to present a scenario in which the TPP New Kosovo G1-G3 are no longer needed to meet the forecasted electrical consumption. This is shown as an increase in capacity for biogas, wind and solar from the base scenario presented in Section 3.2.

3.3.1 Key Assumptions

- TPP Kosovo A: In this simulation, it was assumed that TPP Kosovo A will remain in service through 2017. The efficiency and capacities of A3 – A5 were modeled as presented in Section 3.1.1.

- TPP Kosovo B: In this simulation, it was assumed that TPP Kosovo B will remain in service for all years 2011 – 2020. The efficiency and capacities of B1 and B2 were

modeled as presented in Section 3.1.1. In this simulation, it was assumed that the net capacities of the power plants would be raised to 300 MW by 2018.

- Solar Photovoltaics: The total installed capacity of 800 kW in the Base Scenario is very low. In this &, we assume a factor of 10 increase – thus, the installed capacity of solar (PV) in this Low-Carbon Scenario reaches a total of 8 MW by 2020.

- Small HPP: The capacity of small hydro power plants (HPP) will remain as specified in the Base Scenario of Section 3.2

- HPP Zhur: It was assumed for this simulation that HPP Zhur is brought online in 2016. The Zhur HPP was modeled with an installed capacity of 305 MW and a capacity factor of 15% as shown in Section 2.2.2. of this report.

- Biomass: Section 2.5 of this report shows a theoretic potential for biomass of over 6000 GWh/yr. In this scenario we propose a factor of 10 increase in the 16.5 MW potential assumed in the Base Scenario. Thus, this scenario assumes an installed biomass resource of 165 MW by 2020. Again, we are assuming a biogas plant with a capacity factor of 58% (total annual energy production ~830 GWh/yr which is 14% of the estimated resource potential).

- Wind: The MEM base scenario presented in Section 1.2.2. of this report shows an installed wind energy capacity of 141 MW by 2020 . This estimation was done based on three wind projects (aggregate capacity 157 MW) which had been submitted for government approval. In this scenario, we assume that the installed capacity by 2020 could easily be as high as 280 MW – by focusing development in the windy regions of *Figure 10* to areas near existing transmission. In addition, due to geographic dispersion of the wind farms, we're estimating an increase in capacity factor to 30%.

3.3.2 Simulation Results

The simulated net generation forecast for the 'Low-Carbon Scenario' from 2010 – 2020 is summarized in *Table 21*. As with the previous 'Base Scenario' simulation, here the Total Net Generation for each year matches the Total Consumption estimates presented by KOSTT in *Table 6.*

Net Electricity Generation (GWh): Low-Carbon & EE Scenario	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TPP Kosovo A3-A5	1740	1740	1740	1740	1740	1740	1740	1740	0	0	0
TPP Kosovo B1-B2	3271	3502	3510	3469	3416	3377	3351	3310	4612	4556	4485
Total TPP	**5010**	**5243**	**5250**	**5209**	**5156**	**5117**	**5090**	**5050**	**4612**	**4556**	**4485**
Small HPP	157	229	302	374	447	519	592	664	737	809	881
HPP Zhur	0	0	0	0	0	0	401	401	401	401	401
Total HPP	**157**	**229**	**302**	**374**	**447**	**519**	**992**	**1065**	**1137**	**1210**	**1282**
Biomass	0	84	168	252	335	419	503	587	671	755	838
Wind	0	2	83	165	251	333	419	501	587	674	761
Solar	0.00	0.01	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.12	0.13
Total Bio + Wind + Solar	**0**	**86**	**251**	**416**	**587**	**752**	**923**	**1088**	**1258**	**1429**	**1599**
Total Renewables	**157**	**315**	**553**	**790**	**1033**	**1271**	**1915**	**2153**	**2395**	**2638**	**2881**
Total Net Imports	470	359	341	324	310	286	-152	-167	204	188	165
Total Net Generation	**5637**	**5916**	**6144**	**6324**	**6500**	**6675**	**6854**	**7036**	**7211**	**7382**	**7531**

Assumptions:
281MW Wind by 2020
140MW new hydro by 2020 (182 including existing capacity)
HPP Zhur online in 2016 with 15% cf
8MW PV by 2020
165 MW Biomass by 2020

Table 21: Simulated Net Electricity Generation for 'Low-Carbon Scenario' 2010-2020

In this scenario, by 2020 the total energy generated from renewables is 2881 GWh – which is equivalent to 38% of the Total Net Generation. Generation from hydro power plants accounts for 17% of the Total Net Generation, while Bio+Wind+Solar now contribute 11%.

Figure 20 shows the simulated net generation of electricity by month within Kosovo in 2020. In this plot 'Hydro' represents the production from 180.3 MW of small HPP capacity. Since these sources are non-dispatchable, the gap between the total generation (shown for 2020 in *Figure 20*) and the Total Consumption must be met through a combination of HPP Zhur and Net Imports. *Figure 21* shows a probability density function of the variable load that must be met through a combination of HPP Zhur and Net Imports in 2020. This load hits a peak of 700 MW – which could realistically be supplied by the 305 MW from zhur and 295 MW from Net Imports.

The capacities of renewable generation in this scenario were chosen to show that the forecasted Total Consumption could be met with a combination of local renewables and imports with neighboring countries. In fact, inspection of *Table 6* shows that required net imports of electricity drop annually from 2010 - 2015. In 2016 – 2017 the generation within Kosovo is high enough that it becomes a net exporter of electricity to neighboring countries (with net exports of 152 GWh and 167 GWh, respectively). In 2018, with TPP A being de-commissioned, Kosovo once again becomes a net importer of electricity. However, at maximum, the net imports for the period 2018 – 2020 are half the current (2010) values.

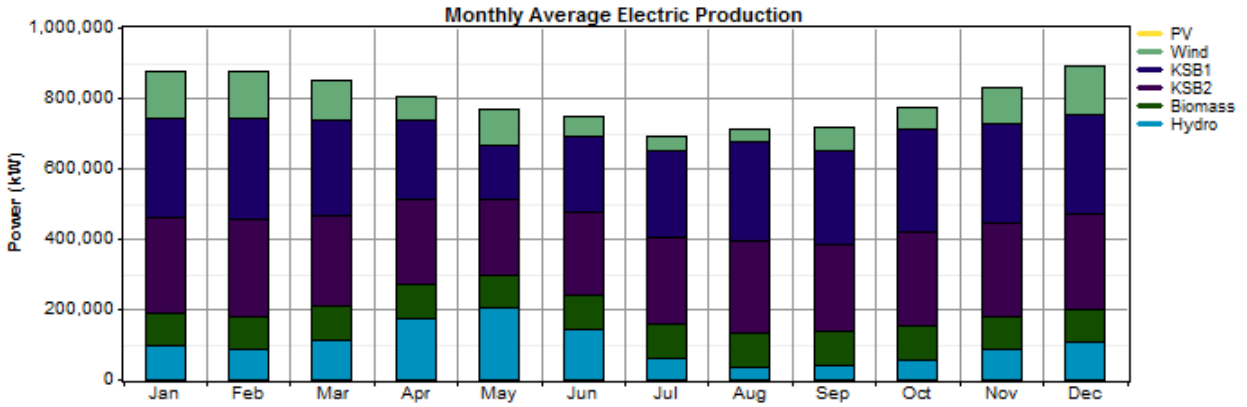


Figure 20: Monthly Electricity Generated within Kosovo for 'Low-Carbon Scenario' 2020 (does not include HPP Zhur)

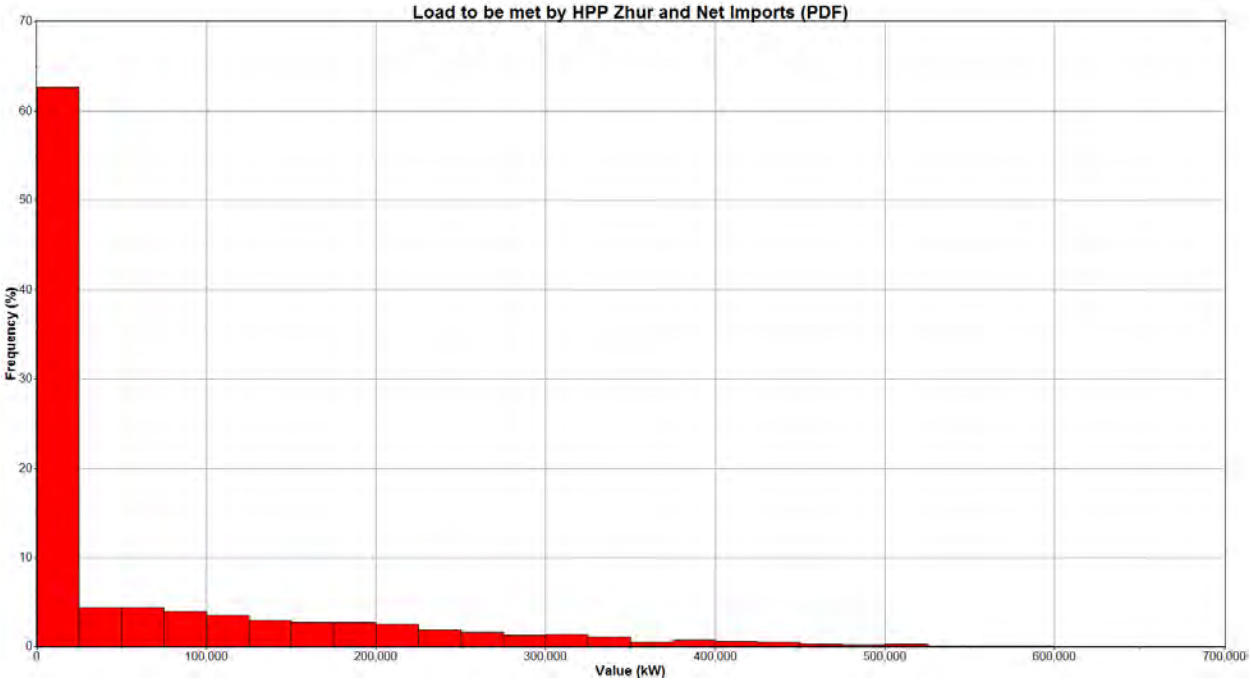


Figure 21: Probability Density of Load to be met by HPP Zhur and Net Imports

3.4 Job Creation

Job creation is an especially pressing issue in Kosovo as the country is facing double-digit unemployment rates with a fast growing youth rate entering the workforce. With a 46 percent unemployment rate and a low employment rate (29 percent), Kosovo has the weakest employment track record in Europe. Unemployment among the population 15 - 25 years old reaches 76 percent, a figure that is more alarming considering that half of Kosovo's total population is under 25.[25]

The clean energy industry has been targeted as a key area for investment for both environmental and economic reasons. Building up a domestically produced clean energy supply can provide greater energy independence and security, and has notable environmental benefits due to reduced CO_2 and other emissions. The clean energy industry can act as a driver for significant, positive economic growth through continual innovation and unlike a capitalized coal generation, clean energy create domestic jobs that are often dispersed throughout the country and additionally, many of these jobs are guaranteed to stay domestic as they involve local construction and installation. Moreover by investing in energy efficiency measures, money otherwise spent on energy costs can be redirected to stimulate the economy through job creation.

In a recent peer-reviewed study Wei, Patadia and Kammen ([23]: hereafter WPK) reviewed 15 studies on the job creation potential of renewable energy, energy efficiency, and low carbon sources such as carbon capture and sequestration (CCS) and nuclear power. The paper first clarifies job definitions and then introduces a common metric and normalization methodology to allow for meaningful comparison of studies. A meta-study of many papers is done to take ranges and averages of normalized job multipliers. Unlike most other renewable energy studies, an attempt is made to take into account job losses in the coal and natural gas industry as a first step to capturing wider economy effects.

In order to compare the various studies on an equal footing, WPK adopted two simple normalizations to calculate lifetime average employment per unit of energy. First, ‘‘one-time’’ employment factors such as construction and installation (‘‘job-years per peak MW’’) are averaged over plant lifetime to obtain an average employment number (‘‘jobs per peak MW’’) that can be directly added to ongoing employment factors such as operations and maintenance. Next, to allow for comparison between technologies with different capacity factors, WPK calculate employment per unit of energy (‘‘job-years per GWh’’) or per unit of average-MW of power output (‘‘job-years per average MW’’).

Table 22 shows the direct and indirect job multipliers for different electricity resources. [32]

Work-hrs per year	2000	Capacity Factor	Equipment lifetime (years)	Employment Components			Average Employment Over Life of Facility							
							Total jobs/MWp		Total jobs/MWa		Total person-yrs/GWh			
Energy Technology	Source of Numbers			CIM (person-years/ MWp)	O&M (jobs/ MWp)	Fuel extraction & processing (person-yrs/GWh)	CIM	O&M and fuel proces s-ing	CIM	O&M and fuel proces s-ing	CIM	O&M and fuel proces s-ing	Total	Avg
Biomass 1	EPRI 2001	85%	40	4.29	1.53	0.00	0.11	1.53	0.13	1.80	0.01	0.21	0.22	0.21
Biomass 2	REPP2001	85%	40	8.50	0.24	0.13	0.21	1.21	0.25	1.42	0.03	0.16	0.19	
Small Hydro	EPRI 2001	55%	40	5.71	1.14	0.00	0.14	1.14	0.26	2.07	0.03	0.24	0.27	0.27
Large Hydro														0.29
Solar PV 1	EPIA 2006	20%	25	37.00	1.00	0.00	1.48	1.00	7.40	5.00	0.84	0.57	1.42	0.87
Solar PV 2	REPP 2006	20%	25	32.34	0.37	0.00	1.29	0.37	6.47	1.85	0.74	0.21	0.95	
Solar PV 3	EPRI 2001	20%	25	7.14	0.12	0.00	0.29	0.12	1.43	0.60	0.16	0.07	0.23	
Wind 1	EWEA 2008	35%	25	10.10	0.40	0.00	0.40	0.40	1.15	1.14	0.13	0.13	0.26	0.17
Wind 2	REPP 2006	35%	25	3.80	0.14	0.00	0.15	0.14	0.43	0.41	0.05	0.05	0.10	
Wind 3	McKinsey 2006	35%	25	10.96	0.18	0.00	0.44	0.18	1.25	0.50	0.14	0.06	0.20	
Wind 4	CALPIRG 2002	35%	25	7.40	0.20	0.00	0.30	0.20	0.85	0.57	0.10	0.07	0.16	
Wind 5	EPRI 2001	35%	25	2.57	0.29	0.00	0.10	0.29	0.29	0.83	0.03	0.09	0.13	
Coal	REPP, 2001	80%	40	8.50	0.18	0.06	0.21	0.59	0.27	0.74	0.03	0.08	0.11	0.11
Energy Efficiency 1	ACEEE 2008	100%	20										0.17	0.38
Energy Efficiency 2	J. Goldemberg 2009	100%	20										0.59	

Table 22: Job Multipliers for different energy resources (US)

The WPK modeling approach yields the following key conclusions:

- The renewable energy and low carbon sectors generate more jobs per unit of energy delivered than the fossil fuel-based sector;
- Among the new renewable energy technologies (solar, wind, biomass, and geothermal), solar photovoltaics (PV) create the most jobs per unit of electricity output;
- Energy efficiency and renewable energy taken together can contribute to much lower CO_2 emissions and significant job creation.

Thus we should look at solar, hydro and wind energy not only as viable energy sources from an environmental perspective, but as strong avenues for job creation within the country. In the absence of local data for job creation in Kosovo we used the above numbers, which are derived from both US and EU resources. To compare, we have calculated the job numbers for 3 different cases.

- Business As Usual (BAU): In this scenario the load till 2020 is supplied through the existing electricity resources (TPP A & B, Existing HPP), the new Kosovo C and Imports.
- Base Scenario: This is the same scenario identified in section 3.2
- Low-Carbon Scenario: This is the same scenario identified in section 3.3

Table 23 shows the results in total 'job.yr' created till 2020 for different energy scenarios.

	BAU	Base Scenario	Low-Carbon Scenario
Energy Technology	Job.yr till 2020	Job.yr till 2020	Job.yr till 2020
Biomass	0	33718	345621
Small Hydro	167	541181	541181
Large Hydro (Zhur)	0	206836	206836
Solar PV	0	22	223
Wind	0	94792	233937
Coal	2,812,529	2,449,411	2,233,061
EE			
Total (Job.yr till 2020)	2,812,696	3,325,961	3,560,859
Jobs vs BAU (%)	-	118	127

Table 23: Total Job.Yrs till 2020 for 'BAU', 'Base Case' and 'Low-Carbon' Scenarios

This means by changing from 'BAU' to 'Base Scenario' we create an additional ~ 51000 full time jobs till 2020. And by choosing the 'Low-Carbon Scenario' over 'BAU' the number increases to ~ 75000 more jobs (than in 'BAU').

The results show a respective 18% and 27% increase in the number of total jobs created from the 'Base' and 'Low-Carbon' Scenarios compared to the BAU case.

3.5 Levelized Cost of Electricity and Externalities

Cost of electricity is generally calculated on a "per Megawatt Hour" (MWh) or "Levelized" basis in order to enable comparison between sources of generation. There are two types of cost associated with the levelized cost of electricity- Explicit and External-.

The explicit cost of electricity generation includes capital costs, fixed and variable operation and maintenance costs (O&M) and the cost of fuel. This explicit cost is paid by the power plant owner to build the facility and generate electricity.

The external cost of electricity generation includes (but is not limited to) negative health impact, air & water pollution, resettlement issues and climate change impacts. This cost if not paid by the facility owner but is borne by the general society.

Figure 22 shows the true cost of electricity generation from different sources with and without their external costs. This figure shows a conventional pulverized coal plant in the absence of emission control factors. As a result, with externalities included, the cost of electricity from coal becomes less attractive [28]. Moreover, although the addition of an emission controls system reduces external costs, it drastically increases explicit costs. As a result, pulverized coal is not the most cost effective source of electricity. *Figure 23* shows the same comparison with a power plant equipped with emission control measures.

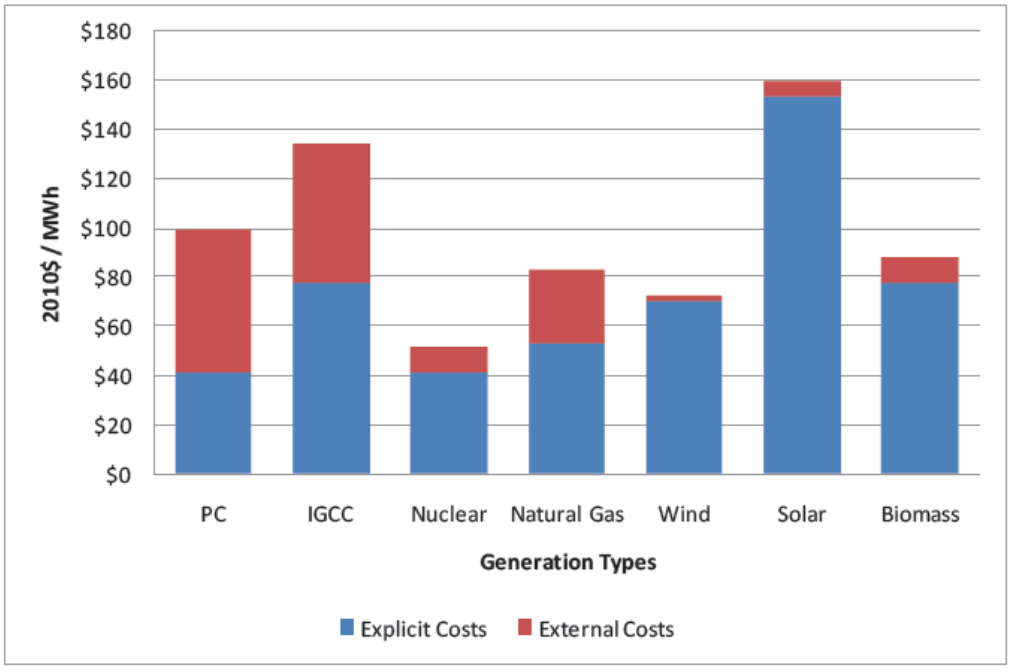


Figure 22: Social Cost of electricity generation (2010$/MWh) [28]

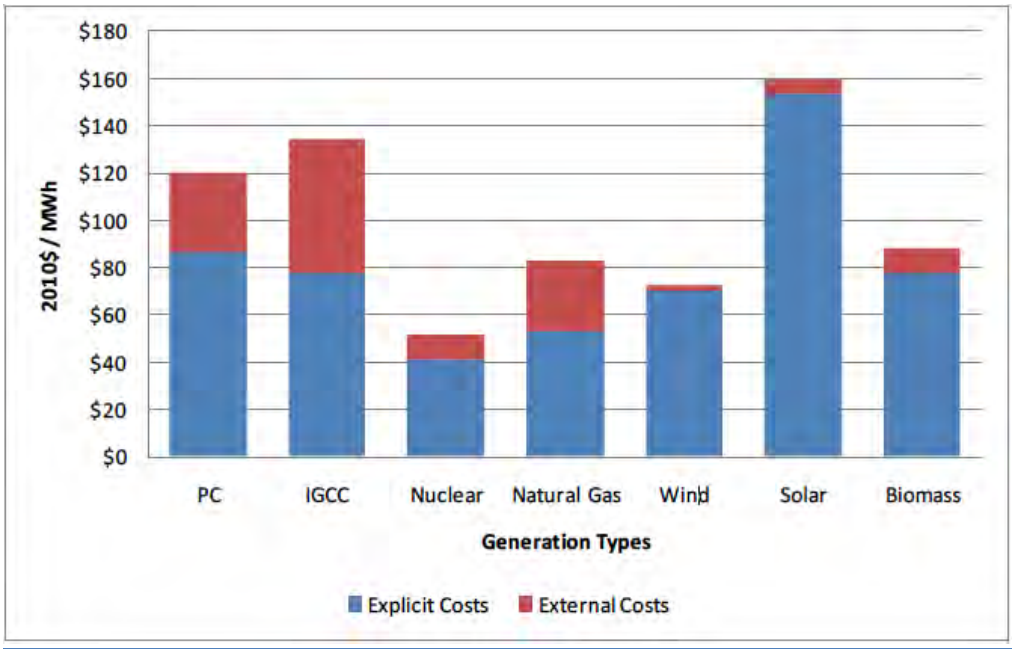


Figure 23: Social Cost of electricity generation- PC includes all available emission control methods (2010$/MWh) [28]

As mentioned earlier, coal may seem to be the cheapest fossil fuel on the market, but its market price is only half the story. The entire process from mining, through combustion to waste disposal, has a dire impact on the environment, human health and the social fabric of communities living near mines, plants and waste sites. It severely disrupts ecosystems and contaminates water supplies. It emits carbon dioxide and other greenhouse gases like nitrogen oxide and methane, as well as toxic chemicals like mercury and arsenic. Leaking waste ruins fish stocks and agriculture. It directly contributes to health problems like black lung disease. Because none of these are reflected in the price of coal, they're referred to "external costs".

A recent study on the externalities of coal in US finds that the best estimate for the total economically quantifiable costs, based on a conservative weighting of many of the study findings, adds about 17.8¢ /kWh to electricity generated from coal. The low estimate is 9¢ /kWh, while the true monetizable costs closer to the upper could be as high as 26.89¢ /kWh. And yet these figures do not represent the full societal and environmental burden of coal. In quantifying the damages, the study has omitted the impacts of toxic chemicals and heavy metals on ecological systems and diverse plants and animals; some ill-health endpoints (morbidity) aside from mortality related to air pollutants released through coal combustion that are still not captured; the direct risks and hazards posed by the combustion waste; the full contributions of nitrogen deposition to eutrophication of fresh water; the prolonged impacts of acid rain and acid mine drainage; many of the long-term impacts on the physical and mental health of those living in coal-field regions nearby sites; and the full assessment of impacts due to an increasingly unstable climate.

The true ecological and health costs of coal are thus far greater than the numbers suggest. Accounting for the many external costs over the life cycle for coal-derived electricity conservatively doubles to triples the price of coal per kWh of electricity generated. [31]. *Table 24* shows some of the coal externalities accounted for in US. Since there is some uncertainty in the

monetization of the damages, low, base, and high estimates are presented. Low and high values indicate both uncertainty in parameters and different assumptions about the parameters that are used to calculate the estimates. Best estimates are not weighted averages, and are derived differently for each category.

Externality	2008 USD ¢/KWh		
	Min	Base	Max
Land Disturbance	0.00	0.01	0.17
Methane Emission from mines	0.03	0.08	0.34
Public Health (Local Communities - Appalachia)	4.36	4.36	4.36
Air Pollution from Combustion	3.23	9.31	9.31
Lost Productivity from Mercury Emissions	0.01	0.10	0.48
Mental Retardation from Mercury Emissions	0.00	0.02	0.19
Cardiovascular Disease from Mercury Emissions	0.01	0.21	1.05
Climate Damage from CO2 & N2O	1.02	3.06	10.20
Climate Damage from black carbon emission	0.00	0.00	0.01
Total	**8.66**	**17.15**	**26.11**

Table 24: External Cost of Coal in US (2008 US Cents/KWh)

The data in *Table* 24 are shown graphically in *Figure 24.*

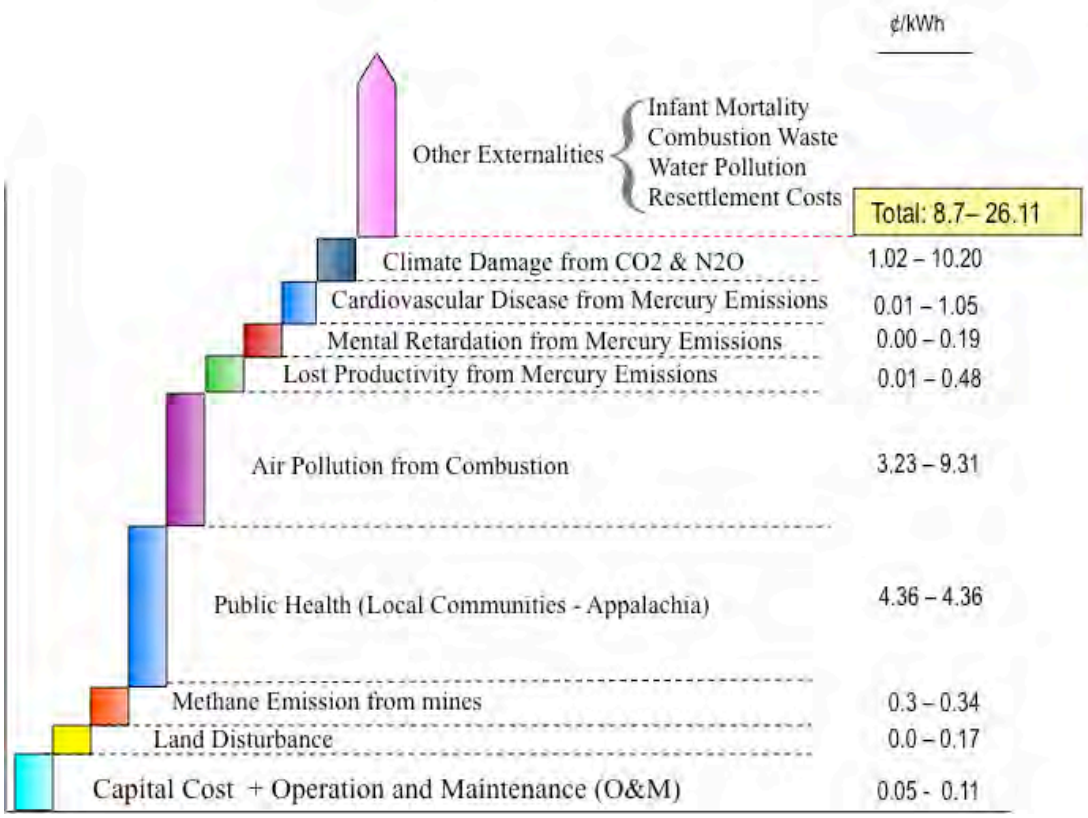


Figure 24: External Cost of Coal in US (2008 US Cents/KWh)

An assessment of the cost externalities associated with a coal-dominated economy, was recently completed for the Republic of South Africa [24]. Although the analysis for South Africa covers only a few of the externalities associated with the power plant, it clearly shows that including

just a few of the external costs in the true cost of coal-fired electricity generation would add between 237% and 459% to the 2010 electricity tariff. [24] The energy generation mix in Kosovo is similar to that of South Africa in terms of the local coal mining to combustion value and impacts chain. This means a roughly 200% to 400% increase in the electricity cost in Kosovo should not be an overestimation.

CASE	DESCRIPTION	PEAK MW	Total GWH	$/W_peak[1]	$/MWh[2]	$ million (Installed Capacity)	$ million (LCOE)	$ million (LCOE w Externalities - 200%)	$ million (LCOE w Externalities - 400%)
Base Scenario	TPP Kosovo A3-A5		13916						
	TPP Kosovo B1-B2		39598						
	TPP Kosovo G1-G2	600	5476	2.6	94.8	1560.00	519.12	1038.25	2076.50
	TPP Kosovo G3	400	1096	2.6	94.8	1040.00	103.90	207.80	415.60
	Wind	141	1530	1.95	97	274.95	148.41	148.41	148.41
	Small Hydro	182	5710	1.5	86.4	273.00	493.34	493.34	493.34
	HPP Zhur (cf=15%)	305	2003	1.44	155.5	439.20	311.47	311.47	311.47
	Residential PV	0.8	0.07	4.65	210.7	3.72	0.01	0.01	0.01
	Biomass	16.5	461	2.4	112.5	39.60	51.86	51.86	51.86
	Imports	295	3438		142		488.20	976.39	1952.78
	Total:					3630	2116	3228	5450
Low-Carbon & EE Scenario	TPP Kosovo A3-A5		13919						
	TPP Kosovo B1-B2		40859						
	Wind	281	3776	1.95	97	547.95	366.27	366.27	366.27
	Small Hydro	182	5710	1.5	86.4	273	493.34	493.34	493.34
	HPP Zhur (cf=15%)	305	2003	1.44	155.4	439.2	311.27	311.27	311.27
	Residential PV	8	0.71	4.65	210.7	37.2	0.15	0.15	0.15
	Biomass	165	4612	2.4	112.5	396	518.85	518.85	518.85
	Imports	295	2330		142		330.86	661.72	1323.44
	Total:					1693	2021	2352	3013

1 Values from Black & Veatch
2 Values from US Department of Energy- DOE/EIA-0383(2010)

The externalities studied in the South African case include health impacts due to air pollution, the CO_2 emissions and its contribution to climate change, the cost of coal mining and transportation and finally the scarcity value (opportunity cost) of water. A lot of other important factors such as impact of heavy metals in causing cancer, health costs related to ash dumps, water quality degradation, among other factors, are left out of the study.

Health Risks:

Coal mining and combustion releases many more chemicals than those responsible for climate change. Coal also contains mercury, lead, cadmium, arsenic, manganese, beryllium, chromium, and other toxic, and carcinogenic substances. Coal crushing, processing, and washing releases tons of particulate matter and chemicals on an annual basis and contaminates water, harming community public health and ecological systems. [31]

Kosovo has the worst health outcomes in the Balkans. As shown in *Table 25*, on every indicator—life expectancy, maternal death rates, infant and child mortality, immunization rates and tuberculosis incidence—Kosovo ranks far below neighboring countries, often by a factor of two. Infant and child mortality rates, which are twice as high as in neighboring countries, result from readily preventable problems—perinatal conditions, respiratory diseases and diarrhea. [18] According to 2007 UNDP data, Kosovo had the highest child and infant mortality rates and the lowest life expectancy (69 years) in South East Europe. Environmental problems such as air pollution, waste management and heavy metal pollution affect the population's health: the

Mitrovica municipality reports the highest blood lead levels in the world. [19]

Indicators	Kosovo	Serbia	Albania	Bosnia	Macedonia	EU
Life expectancy at birth, total (years)	69	74	76	n/a	n/a	79
Maternal deaths (per 100000 live births)	28.4*	12.68	16.75	n/a	13.34	6.01
Infant mortality (per 1,000 live births)	20.6*	7.11	7.8	n/a	n/a	4.56
Under 5 mortality (per 1,000)	69 (2002)	8.14	12.4	n/a	n/a	5.47
Immunization, measles (percent of children)	<80	92	98	83.5	98	92.8
Tuberculosis incidence per 100000	52 (2005)	26.6	13.9	60.5	25.7	15.5
UNDP Human Development Index (HDI)	0.734	0.821	0.807	0.802	0.808	n/a

Source: WHO health for all data 2006; UNDP Second Millennium Development Goals Report for Kosovo 2008; MOH: Perinatal situation in Kosovo 2000-2008.
*Note: Infant deaths (proxied by perinatal deaths) and maternal deaths in Kosovo include only deaths in health facilities.

Table 25: Health Indicators for Kosovo and Neighboring Countries, 2007

Resettlement Costs:

The new mine will acquire approximately 13% of the territory of the Obiliq Municipality. The area planned for mining development, is largely composed of fertile land (i.e., agricultural), while the remaining parts are settlements, roads or forests.[26] According to the SESA, 2008 [27], local villages will need to be resettled with the total population of the affected area estimated at around 1,500 families. The mine development-induced direct land acquisition is largely reflected in the four locations already slated for resettlement, including Hade (784 people remaining), Dardhishte (~ 987 people), Lajthishte (~ 921 people), and Sibovc (~ 1,114 people). In addition, 330 families in the town of Plemetin will need to be relocated because their houses are within the 1,000 m buffer zone from the new planned power plant.[27].

If resettlement is determined to be possible in the Kosovo Lignite Power Project, the project will require significant permanent relocation and rehabilitation of land, which are associated with high resettlement costs. Given the basic data needed for estimating resettlement costs, i.e., updated census, asset inventory, detailed socioeconomic survey, and project technical designs are all lacking, it is necessary to rely on average resettlement expenses for other World Bank projects.3 On average, World Bank-supported hydropower projects' completion reports indicate resettlement costs of an average of 11 percent of overall project costs. [29] Accordingly, resettlement costs for the Kosovo Lignite Power project are estimated to approximately equal $33 million. 4 [30]

[3] The World Bank's Involuntary Resettlement Sourcebook (2004) also recommends an estimate methodology based on three to five times per capita gross national income (GNI) for each person subject to relocation. Given the specific number of persons to be relocated was unknown and that the per capita GNI for Kosovo is so low (i.e., $3,300 according to IFC's Doing Business 2012), this method was determined not to provide an accurate estimate.

[4] Based on an analysis carried out by Vattenfall of the new mine to serve the new power station with 600MW capacity. It shows an investment of $300 million in constant prices over the period 2007-2038. As cited in: Kosovo Lignite Power Initiative Proposed Lignite Power Development Project (LPDP): Economic Analysis (downloaded from the World Bank's project website, file dated May 11, 2011).

4. Conclusions & Recommendations

This assessment is an analytic treatment of the energy options that exist today and that can be created through investigation of new energy efficiency, renewable energy, and the wise use of fossil fuel resources. Key components of such a forward-looking energy plan for Kosovo, and arguably for the Balkans more widely, are: job creation and the support of indigenous industry; reduced exposure to energy supply and price risks through regional coordination and integration; and an energy mix that reduces human and environmental health risks and facilitates economic integration with the European Union.

In conclusion we find that:

- The business as usual path, dominated by an expanded use of low-quality coal, is not the least-cost energy option for Kosovo given the social cost of thermal generation. The coal dominant energy path also burdens future generations with an energy mix that is neither environmentally sustainable nor is it a path that maximizes job creation.

- A low-carbon path exists for Kosovo that integrates aggressive energy efficiency deployment, use of both large and small-scale hydropower, solar, biomass and extensive use of wind energy while reducing human and ecological damage. This path whilst delivering 38% of the energy demand through renewable resources can also provide almost 30% more jobs than a business as usual path and it does so at an estimated cost savings of 50% relative to a base-case scenario that includes a new coal power plant.

- To make the low-carbon path viable, two key commitments are vital: 1) to implement aggressive energy efficiency programs (and reducing technical losses) and enabling policies to do so; and 2) to explore and implement opportunities to make the hydropower capacity a resource year-round, and to develop wind or other renewable energy sources that can address peak energy demands, potentially utilizing wind and hydropower in concert, and/or to bring significant geothermal power into the energy mix.

Appendix A:

World Bank Kosovo Lignite Power Project: Resettlement

Prepared by: Heike Mainhardt-Gibbs, December 2011

Resettlement has been identified as a major impact that the World Bank Kosovo Lignite Power Project will have on the local population. Resettlement will be necessary mainly due to the coal mine field development aspect of the project, but also from the new power plant and related facilities and infrastructure. There are 20 towns and villages in the Lignite Power Project area. According to the SESA (2008)[5], most of the communities are located close enough to the existing mines and power plant sites to be substantially affected by the environmental pollution that they generate. The population of Obiliq municipality is around 32,300.[6] The average population density is 304 persons per km² (higher than the Kosovo average of 193 per km²).[7]

According to the Resettlement Policy Framework[8] (RPF) for the project, the project-affected areas can be divided into three primary categories: 1) areas directly required for the mining and power complex, including for any ancillary facilities; 2) areas required for the safety zones of the mine and any new roads, sub-stations and transmission lines; and 3) areas that are not required for the mining and power complex or for the formal safety zones but which suffer or will suffer significant social and environmental impacts: such as dust, noise, air pollution and contamination of ground and surface water, etc.

As such, the new mine operation will acquire approximately 13% of the territory of the Obiliq Municipality.[9] According to the SESA, 2008, local villages will need to be resettled with the total population of the affected area estimated at around 1,500 families. The mine development-induced direct land acquisition is largely reflected in the four locations already slated for resettlement, including Hade (784 people remaining), Dardhishte (~ 987 people), Lajthishte (~ 921 people), and Sibovc (~ 1,114 people).[10] In addition, 330 families in the town of Plemetin will need to be relocated because their houses are within the 1,000 m buffer zone from the new planned power plant. [11]

[5] SESA, 2008. Strategic Environmental and Social Assessment. Government of Kosovo, Ministry of Energy and Mining. World Bank Lignite Power Technical Assistance Project (LPTAP), June 2008.
[6] There are around 5,300 inhabitants in town and 27,000 in the rural areas. Ministry of Environment and Spatial Planning, 2006."Spatial Analysis of Obliq".
[7] Ibid.
[8] Ministry of Environment and Spatial Planning, 2009. Resettlement Policy Framework for Land Acquisition for the New Mining Field Zone. Republic of Kosovo, 2009.
[9] SESA, 2008. Strategic Environmental and Social Assessment. Government of Kosovo, Ministry of Energy and Mining. World Bank Lignite Power Technical Assistance Project (LPTAP), June 2008.
[10] These population estimates were cited in the SESA, 2008. The SESA noted that up dated census data was necessary. In addition, it appears that these estimates may only represent village residents and not rural populations.
[11] SESA, 2008. Strategic Environmental and Social Assessment. Government of Kosovo, Ministry of Energy and Mining. World Bank Lignite Power Technical Assistance Project (LPTAP), June 2008.

The majority of land is owned in close proximity of residents and renting of land is not a common practice in the project area. [12] All residents in the project area own land around their houses or 'yards' on which 80-97% grow crops and cereals for household consumption. [13] Income levels are low and most inhabitants are reliant on subsistence farmed for some, if not all, of their food supply. Additional income is generated through agricultural production, wood-cutting[14] and small scale farming.[15] The Project will acquire most of the fertile land in the surrounding area. [16]

Appropriate resettlement and compensation for any lost land is especially important due to the reliance on agricultural production for both subsistence farming and as an additional source of income. Resettlement involved in the Kosovo Lignite Power Project is complicated[17] and must abide by international standards, which in addition to land and house replacement, require affected families to be compensated for the loss of their livelihoods and/or subsistence. The SESA (2008) concluded that "the Project would provide limited paid employment for some residents, however, economic advantages are limited for most."

Lack of Agricultural Land and Rehabilitation: Resettlement involved in the Lignite Power Project is further complicated by the fact that there is not enough replacement agricultural land to resettle people who rely on farming for their livelihoods.[18] The RPF[19] asserts that this problem will be addressed through rehabilitated land:

> *There is an acute shortage of good agricultural land in the area around the proposed mining and power complex. The option of providing a plot of rehabilitated land is intended to encourage the Project Company to rehabilitate and make use of a large area of overburden dumps that is presently owned by KEK. To make this option more attractive, the Project Company will offer affected landowners a larger area of land than the plot that is affected and/or a package of additional benefits, which might include technical assistance and/or the use of shared equipment.*

However, it has not been proven that the rehabilitated land will be suitable for food production. Once land has been fully rehabilitated, it will still take time and funding to monitor the soil and water quality to determine whether or not it is safe for food production.[20]

Resettlement Costs: If resettlement is determined to be possible in the Kosovo Lignite Power Project, the project will require significant permanent relocation and rehabilitation of land, which are associated with high resettlement costs. Given the basic data needed for estimating resettlement costs, i.e., updated census, asset inventory, detailed socioeconomic survey, and project technical designs are all lacking, it is necessary to rely on average resettlement expenses for other World Bank projects.[21] On average, World Bank-supported hydropower projects' completion reports indicate resettlement costs of an average of 11

[12] SESA, 2008. Strategic Environmental and Social Assessment. Government of Kosovo, Ministry of Energy and Mining. World Bank Lignite Power Technical Assistance Project (LPTAP), June 2008.

13 Ibid.

14 A quarter of all residents earn extra income cutting and selling wood for heating (SESA, 2008).

15 SESA, 2008. Strategic Environmental and Social Assessment. Government of Kosovo, Ministry of Energy and Mining. World Bank Lignite Power Technical Assistance Project (LPTAP), June 2008.

16 Ibid.

17 According to the SESA (2008), the legacy of the resettlement in 2003-2004 in the area, i.e. partial resettlement of Hade, has left both those remaining and those resettled extremely angry about the process. Residents are concerned that the Hade experience will be repeated. As of SESA (2008), 85 Hade-resettled families were still living in temporary accommodation in Obiliq town.

18 Ibid.

19 Ministry of Environment and Spatial Planning, 2009. Resettlement Policy Framework for Land Acquisition for the New Mining Field Zone.

20 Some data may be obtained from the Clean Up and Land Reclamation Project (CLRP) that was initiated in 2007.

21 The World Bank's Involuntary Resettlement Sourcebook (2004) also recommends an estimate methodology based on three to five times per capita gross national income (GNI) for each person subject to relocation. Given the specific number of persons to be relocated was unknown and that the per capita GNI for Kosovo is so low (i.e., $3,300 according to IFC's Doing Business 2012), this method was determined not to provide an accurate estimate.

percent of overall project costs.[22] Accordingly, **resettlement costs for the Kosovo Lignite Power project are estimated to approximately equal $33 million.**[23]

References:

[1] Ministry of Economic Development - Appendices to 'Study on the Potential for Climate Change Combating in Power Generation in the Energy Community – South East Europe Consultants, Ltd. http://www.energy-community.org/pls/portal/docs/1006177.PDF

[2] Study on the Potential for Climate Change Combating in Power Generation in the Energy Community – South East Europe Consultants, Ltd. http://www.energy-community.org/pls/portal/docs/928177.PDF

[3] Statement of Security of Supply for Kosovo (Electricity, Gas and Oil) – July 2011 http://ero-ks.org/Publications/2011/Statement_of_Security_of_Supply_for_Kosovo_Electricity_Gas&Oil.pdf

[4] GENERATION ADEQUACY PLAN 2011-2020 http://www.kostt.com/website/images/stories/dokumente/tjera/Generation_Adequacy_Plan_2011_-_2020.pdf

[5] Daily Forecast & Realization, KOSTT Transmission System & Market Operator, J.S.C. http://www.kostt.com/website/index.php?option=com_content&view=article&id=222&Itemid=414&lang=en

[6] EPA report on Emissions Factors from External Combustion Sources, Section 1.7 http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s07.pdf

[7] Prefeasibility study for identification of water resources and their utilization through small hydro power plant on Kosovo, 2006

[8] Wind Resource Assessment – 20555 Final Report - MWST-NR. 240248- Study on the potential wind resources in Kosovo- (Phase 2: Implementation of a wind measurement campaign for the preparation of a wind map)

[8.8] Wind Energy Potential of Kosovo, Master's Thesis, University Of Vienna, Dec 2010

[9] Lot No4 Assessment Study of Renewable Energy Resources in Kosovo Main Report-Jul 2008

22 World Bank, 2004. Involuntary Resettlement Sourcebook - planning and implementation in development projects, 2004.
23 Based on an analysis carried out by Vattenfall of the new mine to serve the new power station with 600MW capacity. It shows an investment of $300 million in constant prices over the period 2007-2038. As cited in: Kosovo Lignite Power Initiative Proposed Lignite Power Development Project (LPDP): Economic Analysis (downloaded from the World Bank's project website, file dated May 11, 2011).

[10] European Commission Liaison Office to Kosovo - Kosovo Ministry of Energy and Mining, June 2008

[11] Generation adequacy plan, 2011-2020 http://www.kostt.com/website/images/stories/dokumente/tjera/Generation_Adequacy_Plan_2011_-_2020.pdf

[11.1] Development and Evaluation of Power Supply Options for Kosovo, Sep 2011

[12] http://siteresources.worldbank.org/KOSOVOEXTN/Resources/297769-1274120156014/chapter2.pdf

[13] http://www.kostt.com/website/index.php?option=com_content&view=article&id=237&lang=en

[14]https://www.entsoe.eu/fileadmin/user_upload/_library/resources/statistics/100903_Statistical_Glossary.pdf

[15] KOSTT 'Long Term Energy Balance (2009 – 2018)

[16] A Strategic Approach to the Copenhagen Climate Change Conference 2009, Kosovo and Climate Change

[17] Directive 2001/80/EC of the European parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants

[18] Kosovo Public Expenditure Review, WB, June 2010 http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/07/05/000333038_20100705005452/Rendered/PDF/537090ESW0P117101Official0Use0Only1.pdf

[19] http://www.unicef.org/kosovo/children.html

[20] www.bankwatch.org

[21] USAID, Energy Community Stocktaking on Energy Efficiency, May 2008, p.22 30

[22] Energy assessment Report of the Municipality of Dragash, march 2010

[23] Wei, M., Patadia, S. and Kammen, D. M. (2010) [WPK] "Putting renewables and energy efficiency to work: How many jobs can the clean energy industry generate in the U. S.?" *Energy Policy*, 38, 919 - 931.

[24] The True Cost of Coal in South Africa (2011) http://www.greenpeace.org/africa/Global/africa/publications/coal/TrueCostOfCoal.pdf

[25] Interim strategy note for republic of Kosovo, World Bank, Dec 2009 http://www.wbif.eu/attached_documents/9963/3293/World_Bank_Interim_Strategy_Note_on_Kosovo.pdf

[26] Ministry of Environment and Spatial Planning, Republic of Kosovo (MESP), 2006. "Spatial Analysis of Obiliq"

[27] SESA, 2008. Strategic Environmental and Social Assessment. Government of Kosovo, Ministry of Energy and Mining. World Bank Lignite Power Technical Assistance Project (LPTAP), June 2008

[28] The Social Cost of Coal, Implications for the World Bank, Samuel Grausz, Oct 2011

[29] World Bank, 2004. Involuntary Resettlement Sourcebook - planning and implementation in development projects, 2004

[30] World Bank Kosovo Lignite Power Project: Resettlement, Heike Mainhardt-Gibbs, Dec 2011

[31] Full cost accounting for the life cycle of coal, Epstein et al, NY Academy of sciences, 2011

[32] http://rael.berkeley.edu/greenjobs

Acknowledgment

The authors would like to thank the Karsten family foundation endowment of RAEL, the UC Berkeley class of 1935, and the Rockefeller Brothers foundation without whose support, the completion of this project would not have been possible. We would also like to acknowledge Heike Mainhardt-Gibbs for her assessment of the Proposed Lignite Power Project Resettlement Case. This project was directed by Professor Daniel M. Kammen at UC Berkeley.

Daniel Kammen is the Class of 1935 Distinguished Professor of Energy with appointments in the Energy and Resources Group, The Goldman School of Public Policy, and the Department of Nuclear Engineering at the University of California, Berkeley. Kammen directs the Renewable and Appropriate Energy Laboratory (RAEL) and the Transportation Sustainability Research Center (TSRC). During 2010 – 2011 Kammen served as the first Chief Technical Specialist for Renewable Energy and Energy Efficiency. Kammen was named by Secretary of State Hilary R. Clinton is an inaugural Fellow of the U. S. State Department's Energy and Climate Partnership for the Americas (ECPA).

AFFORDABLE ELECTRICITY FOR KOSOVO?

A Review of World Bank Group Cost Estimates
For New Lignite-fired Plants in Kosovo

Bruce C. Buckheit
October, 2011

Prepared for:
The Sierra Club
The Kosovar Institute for Policy Research and Development

EXECUTIVE SUMMARY

This report provides a review of economic issues within the "Terms of Reference" ("TOR") that has been provided to the Kosovo Strategic Framework for Development and Climate Change ("SFDCC") Expert Panel to assist the panel in determining whether the proposed Kosovo Power Project meets World Bank policy on participation in coal-based power generation projects. It focuses on that part of the proposal that would provide for World Bank Group support for a new base load lignite-fired power plant ("Kosovo C") and examines whether the TOR provides a sufficiently credible evaluation of available alternatives to provide a basis for World Bank Group participation in the Kosovo Power Project as proposed.

The Review concludes that the TOR does not provide a basis for a full consideration of the diversity of available technologies, costs, and solutions to Kosovo's energy needs or a basis for a World Bank Group decision to support the proposed new lignite-fired plant. Further, the TOR does not provide a sufficient analysis of the available alternatives and costs to establish compliance with the World Band Group policy criteria. Specifically:

1) No evaluation of the temporal variation in Kosovo's electric consumption patterns (i.e., the variation in energy demand as that demand changes throughout day and the year) was made to determine the least cost mix of base load, load-following or peaking units was conducted. As a consequence of failure to properly define Kosovo's energy demand, the TOR simply and erroneously assumes that Kosovo's needs can be met most cost-effectively by a system that is made up entirely of base load units, even though a mix of base load and non base load units is routinely incorporated in economically efficient systems. The TOR does not examine this issue and make a determination that for, some reason Kosovo's low-cost mix is different from such systems; it simply assumes that 600 MW of new **base load** generation at Kosovo C is needed;

2) The TOR limits the alternatives to be considered to **base load** lignite-fired, gas-fired and oil-fired units. Given the high fixed cost of large lignite-fired base load units, building and operating such new base load units at low capacity factors is not likely to be the cost effective solution to addressing Kosovo's energy needs;

3) The TOR specifically precludes the SFDCC Expert Panel from conducting a full and inclusive assessment process that gives proper consideration to the diversity of technologies, costs, and solutions that would lead to an economically, socially, and environmentally sustainable energy plan for Kosovo and the region;

4) The TOR fails to document whether **any** new **base load** capacity is needed or whether there is a regional market for non-peak base load generation. A reduction in "technical losses" associated with transmission system deficiencies (currently 15 percent) to levels achieved elsewhere in the region (5 percent) would save the same amount of power as the power shortfall relied on in the

TOR to establish the need for new generation. Planned transmission system improvements, completion of the Zhur hydropower plant ("HPP") and refurbishment of Kosovo B plant as contemplated would provide generating capacity 30 percent higher than the reported current annual average demand.

5) The cost of electricity that would be provided by the Kosovo plant is grossly underestimated. The figures used in the TOR for the capital cost of construction and for future fuel costs are based on preliminary estimates that are not been refined or updated and are inconsistent with both regional costs as documented by unbiased governmental and commercial entities and with published inflation indexes for those items since the initial date of the estimate.

6) Importantly, the predicted cost of electricity is based on the assumption that all four surviving Kosovo units will operate 85 per cent of the time. There is insufficient demand, especially in off-peak periods, in Kosovo to support this level of operation. The overall system load factor in 2006 was 46 percent. If one assumes that Kosovo B operates as the base load unit, the capacity factor for the new Kosovo C units at current overall demand would be 20 percent; not 85 percent, thus tripling the cost of generation for this plant.

7) Providing a credible cost estimate of the likely cost of electricity from the proposed project is beyond the scope of this review. However, given the magnitude of the errors in the TOR estimate, it is reasonable to assume that the cost of electricity under the proposed plan might be three times higher than current costs. As an increase of this magnitude could have a significant adverse impact on the Kosovar economy and quality of life it is important that a credible determination of the cost and benefit of **all** options be made and discussed publicly.

8) The proposed project would result in higher emissions of all conventional and hazardous air pollutants than a mix of transmission system improvements, constructing the Zhur HPP, HPP swaps with neighboring countries, development of conservation, demand side (peak load) management programs and small natural gas-fired peaking units as needed.

9) The proposed project is not shown to be "carbon neutral" when compared to either the *status quo* or to the mix of available alternatives.

INTRODUCTION

The Kosovo government, with the assistance of the World Bank Group, USAID and others, has embarked on an ambitious effort to replace half of the generating capacity in Kosovo with new base load lignite-fired electric generating units and refurbish the other half of the capacity, all in the next 4 years. Several studies have been conducted and a "Terms of Reference" ("TOR") has been provided to the Kosovo Strategic Framework for Development and Climate Change ("SFDCC") Expert Panel to establish the parameters to be employed by the panel in determining whether the proposed Kosovo Power Project meets World Bank policy on participation in coal-based power generation projects. The SFDCC outlines the policy criteria for determining when the World Bank Group may support a particular coal project:

> "(i) there is a demonstrated developmental impact of the project including improving overall energy security, reducing power shortage, or access for the poor;
> (ii) assistance is being provided to identify and prepare low-carbon projects;
> (iii) energy sources are optimized, looking at the possibility of meeting the country's needs through energy efficiency (both supply and demand) and conservation;
> (iv) after full consideration of viable alternatives to the least cost (including environmental externalities) options, and when the additional financing from donors for their incremental cost is not available;
> (v) coal projects will be designed to use the best appropriate available technology to allow for high efficiency and, therefore, lower GHG emissions intensity; and
> (vi) an approach to incorporate environmental externalities in project analysis will be developed."

This review concludes that the TOR does not provide a sufficient analysis of the available alternatives and costs to establish compliance with the World Band Group policy criteria described above. The TOR limits the available alternatives to **base load** lignite-fired, gas-fired and oil-fired units. In doing so, it fails to recognize that efficiently functioning electric power generating systems must have a mix of base load, load following and peaking assets. If the Kosovo Power Project goes forward as described, Kosovo will be served by four units that are designed as base load units, with no load following or peaking units.[1] Demand for electricity is significantly reduced at different times of the day, especially during certain seasons. For this reason, in a system where there is no intermittent capacity, the projected utilization rates of 85 percent cannot be achieved. As a result the projected cost of electricity is greatly understated and the potential for eliminating load shedding will be less than forecast. The TOR provides no information upon which the SFDCC Expert Panel can base a judgment as to the amount of **base load** capacity that is needed; nor any discussion of the need for load following or peaking generation capacity and how that capacity can best be obtained. However, it can reasonably be concluded that, given the high fixed cost of such units, building and operating new base load units at low capacity factors is not likely to be the cost effective solution to addressing Kosovo's energy needs.

[1] Such a system is also not particularly cost effective means of providing "n-1 reliability."

The TOR fails to compare the costs and benefits of rehabilitating existing units and does not recognize the very real prospect that attempting to replace such a large percentage of the country's base load capacity over a span of only a few years will cause a large increase in the cost of energy and adversely affect the economic development of Kosovo and the well being of the public. While the TOR argues that excess power can be exported to others in the region, it presents no market analysis to support this assertion. The TOR presents cost estimates for use by the panel that (1) are clearly out of date – some estimates go back to 2001; (2) were intended as "nominal" estimates at the time; not reliable figures; (3) are significantly different from figures provided by neutral government agencies and business entities for similar projects in the region and throughout the world; and (4) are demonstrably incorrect, based on published figures on the increase in cost since the original estimates were made.

The TOR also fails to incorporate into its analysis of the needs of the Kosovar system, ongoing projects that are underway, such as the reduction in "technical" losses due to deficiencies in the transmission system, the potential for development of the Zhur Hydropower Plant ("HPP"), and the ongoing development of Sibovc South Lignite Mine ("Sibovc Mine"), as well as options that may be available, such as the proposed new transmission line, a potential natural gas line, demand side management and power swaps with neighboring countries. By way of example and as described in more detail below, simply reducing current levels of "technical losses" associated with transmission system deficiencies would eliminate the reported current shortfall in generation.

The project assumes life extension and environmental upgrades at Kosovo B that would result in Kosovo B meeting EU Directive emission limits for existing units. While the new Kosovo C unit would meet somewhat more stringent limits than Kosovo B, it would not meet the far more stringent EU Best Available Techniques ("BAT") guideline limits and would not have controls designed to minimize emissions of hazardous air pollutants such as mercury, hydrogen chloride, hydrogen fluoride, dioxins or heavy metals. If approved, the four base load system described in the Kosovo Power project would have substantially greater emissions than the mix of options in the available alternatives.

Finally, it must be noted that the proposed Kosovo Power Project has not been shown to be more efficient than the existing units would be if refurbished or to have lower greenhouse gas ("GHG") emissions than a system solution that was comprised of a mix of (1) base load lignite-fired generation; (2) demand side management: (3) peaking hydropower from within Kosovo as well as that obtained from neighbors with high HPP resources (and possibly wind power); (4) reduction of transmission system losses and (5) peaking natural gas-fired units. It has also not been shown that the proposed Kosovo Power Project would serve the needs of the public at a lower cost than the alternatives describe above.

As in the United States, power costs associated with newly constructed generation assets in Kosovo will cost substantially more than the cost of generating power from existing assets that do not need to service debt. Most estimates put the levelized cost of energy ("LCOE") of "new coal" at 50 to 75

percent higher than "existing coal[2]." Contrary to claims by some advocates, the fuel efficiency of the fleet has not improved over the past several decades. In the U.S. as recently as three years ago low efficiency circulating fluidized bed ("CFB") designs were popular because of their ability to burn very poor quality coal and coal waste. While the documents describing the Kosovo Power Project are at times vague and sometimes contradictory, it does appear that the project anticipates utilizing two lignite-fired boilers, which may or may not be of CFB design. The Request for Proposals ("RFP") requires a generation efficiency of only 37 percent and is designed to meet EU Directive Limits for dust, SO_2 and NO_x, but not the more stringent EU Best Available Technique ("BAT") limits. Accordingly, it cannot be said that the project represents a meaningful reduction in GHG emissions from the existing units or significantly better dust, SO_2 and NO_x emission performance than would be required of the existing units were they to be refurbished and continue in service past 2016. Recently has there been a greater worldwide usage of higher efficiency supercritical pulverized coal ("SCPC") plant designs that date back to the 1970s and an effort to improve on those designs. The RFP allows bidders to propose SCPC, ultra supercritical pulverized coal (USCPC) or supercritical circulating fluidized bed ("SCCFB") designs, but requires only low efficiency subcritical designs.[3] Even with the improved fuel efficiency of SCCFB, SCPC and USCPC designs, however, the high investment cost for new units results in a LCOE that cannot compete with the cost of generation of existing units.

The initial cost estimates for this project were preliminary, based on "nominal" figures and prepared eight years ago. Those figures are cited in the TOR notwithstanding the fact that in the interim there has been a substantial increase in the construction cost for similar projects associated with a dramatic increase in steel, copper and other essential commodities as well as a large increase in the market price for steam coal. The current estimates for the overnight capital cost and the fuel cost of the project are exceedingly low and lead to an unrealistically low calculation of the levelized cost of electricity. Insufficient allowance is provided in the estimate for the cost of any delay in the schedule. The cost to the developer of a delay of even several months can be substantial and much longer delays should be anticipated for the proposed project, given that the Republic of Kosovo has little recent experience with such projects and the lack of infrastructure in Kosovo to support such projects. In theory the government proposes to underwrite any cost overrun by adjusting the tariff to be paid to the developer, but experience in other countries has shown that this may prove to be politically difficult. Moreover, the difficulties experienced by the government in recovering the cost of generating electricity at current prices suggest that collecting a substantially higher tariff than the current rate may not be feasible.

Before committing significant additional resources to the project, the earlier preliminary cost estimates should be revised and refined, and a candid assessment of the impact of highly leveraged new base load generation capacity on retail electric rates should be provided, as well as a more realistic

[2] See, e.g. Deutsche Bank Group, *A Secure Low Carbon Future Energy Plan for the United States,* November, 2010
[3] At this time no proposal has been made public.

assessment of employment impacts[4]. Importantly, temporal demand should be analyzed to ascertain the lowest cost mix of base load, load following and peaking generation assets. Overly optimistic cost and load estimates do not serve the interest of any party, since, at the end of the day the bill will have to be paid. However, such estimates can lead to investment decisions that may result in very much higher energy costs for Kosovars[5].

REVIEW OF THE KOSOVO SFDCC EXPERT PANEL "TERMS OF REFERENCE", JUNE 14, 2011

A preliminary review of the TOR was undertaken. It must be emphasized that this review was limited by time and available resources. While the overall project included development of a new Sibovc Mine, this effort apparently needs to go forward to provide fuel for existing generation at Kosovo A and B, irrespective of whether Kosovo C is constructed and does not provide a reason for constructing Kosovo C. Accordingly, the rationale for constructing a new mine was not reviewed. In the course of this review a number of errors and misstatements were found, but, given the available resources, only the most significant are addressed in this report.

LCOE

Perhaps the most significant error in the TOR is the representation that the estimated LCOE for "new" coal generation is 3.5–3.6 eurocents/kWh ($0.05/kWh). This estimate is substantially lower than found in the literature and is inconsistent with recent history in the United States and Europe. The International Energy Agency in concert with the Nuclear Energy Agency and the Organization for Economic Cooperation and Development has published LCOE costs for brown coal/lignite burning plants in several countries in the region: the Czech Republic ($0.114/kWh), Germany ($0.0874/kWh), the Slovak Republic ($0.141/kWh).[6] For the United States, a LCOE of $0.09/kWh is given for black coal[7]. According to the U.S. Department of Energy the LCOE for new U.S. coal generation will average $0.0948/kWh in the U.S. with regional variation of between $0.0855 and $0.11/kWh.[8]

The underlying basis for this figure was reviewed and compared with published figures for key assumptions. The TOR indicates that its LCOE estimates were derived from two other documents prepared in conjunction with the project: (1) LPTAP Project Appraisal Document, 2006 and (2) World

[4] For example, the TOR claims that there will be an increase in employment as a consequence of opening the new Sibovc mine, but fails to mention that this gain will be more than offset by job losses at the (hopefully) less efficient earlier mine the new mine will replace.

[5] The near term impact on residential and commercial tariffs is different from the *levelized* cost of energy that forms the basis for the TOR evaluation. The cost of energy to the consumer includes transmission and distribution. The near term cost of generation that is passed on to the consumer will be dependent on a number of factors specific to the cash flow needs of the generating entity (including how import tariffs on plant equipment are addressed) and market considerations. No attempt has been made to evaluate these issues.

[6] International Energy Agency, Nuclear Energy Agency and the Organization for Economic Co-operation and Development, *Projected Costs of Generating Electricity,2010 Edition*

[7] Typically combustion units that fire low rank coals are physically larger than those that burn coal with higher heating values.

[8] Levelized Cost of New Generation Resources in the Annual Energy Outlook 2011. Released December 16, 2010. Report of the US Energy Information Administration (EIA) of the U.S. Department of Energy (DOE).

Bank staff estimates, Kosovo Lignite Power Initiative – Economic Analysis, 2006. The Project Appraisal Document appears to be the source of the LCOE estimate. A spreadsheet is provided on page 77 of that document that sets out the assumptions and the resulting LCOE. However, no support is offered for the assumptions made and the calculation is general in nature. It appears that this estimate may be derived from an earlier "Pre-Appraisal" for a larger project that was contemplated several years earlier. One cannot determine from the spreadsheet the amount of cost that is assigned to controls on particulate matter, SO_2 or NO_x and no decision has been made as to whether the unit will be subcritical or supercritical[9]. While there are a number of assumptions that one could question, the three that have the greatest impact on the overall evaluation are (1) the assumed capital cost of construction (2) the assumed capacity factor and (3) the assumed cost of fuel.

Capital Investment Required

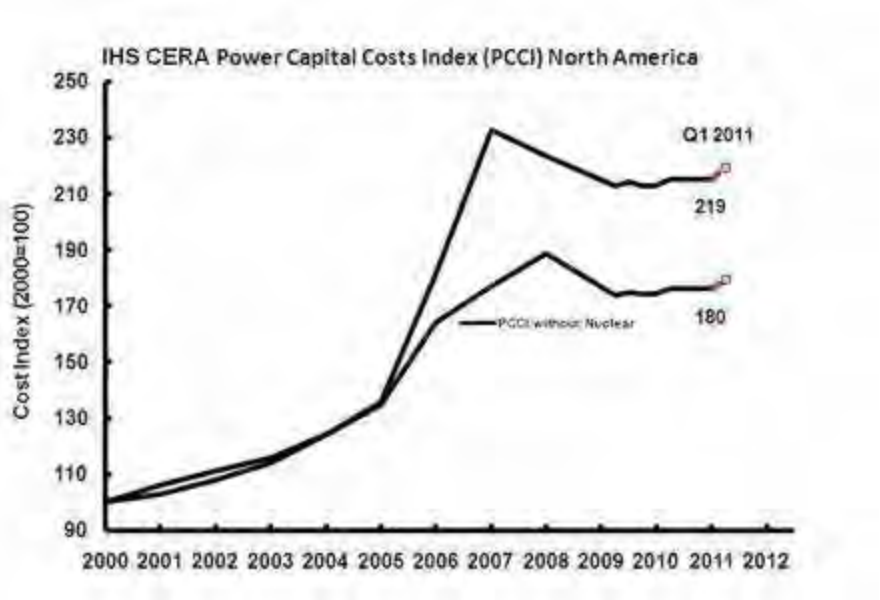
The LCOE estimate in the TOR assumes that the capital investment for the new facility would be 1000 €/kW ($1,360/kW) of capacity or €660 million ($897 million[10]) for the two new units if they are subcritical designs, and 1100 €/kW for SCPC[11]. This is far lower than the International Energy Agency ("IEA") overnight capital cost estimate of $2,762/kW for brown coal fired generation in the Slovak Republic, $3,486/kW for the Czech Republic or $2,197/kW in Germany. It is also substantially lower than the average figure published by the U.S. Department of Energy of $2,408/kW. Finally, it is inconsistent with the most recent estimates prepared for this project. Construction costs have shown extreme volatility in the past few years. The IHS CERA Power Capital Cost Index[12] is one of a number of sources that document the sharp rise in capital cost of construction since the initial "Pre-Feasibility" estimates were prepared for Kosovo C.

[9] The terms "subcritical" and "supercritical" refer to whether the operating temperature and pressure of the boiler is greater than the point of criticality (where distinct liquid and gas phases do not exist) for the water/steam in the boiler. Overall efficiencies can be raised from about 39 percent for subcritical operation to about 45 percent for supercritical operation, thus reducing emissions of GHG and other pollutants per unit of electricity generated.

[10] This figure assumes an exchange rate of $1.36/€, the rate as of this date. The estimate notes that the exchange rate at the time was €0.7844 to one dollar which results in an estimate of $838 million.

[11] A subsequent analysis (*"Pre-feasibility studies for the new lignite fired power plant and for pollution mitigation measures at Kosovo B power plant Task 5 ,Financial and economic analysis of the new TPP,* Draft Final, February, 2006) estimated the investment cost of two 300MW units to be 1091€/kW ($1484/kW) for CFB boilers and 1202€/kW ($1635/kW) for PC boilers. This analysis reports that it is employing "nominal" values rather than project specific values. The TOR does not reflect these estimates, but continues to rely on the earlier figures.

[12] See, http://press.ihs.com/press-release/energy-power/power-plant-construction-costs-cost-pressures-returning. See, also, http://www.decc.gov.uk/assets/decc/statistics/projections/71-uk-electricity-generation-costs-update-.pdf



Future cost predictions continue to show extreme volatility and higher costs. The overnight capital cost estimate of the highly respected U.S. Energy Information Agency for 2011 is 25 percent higher ($2,844/kW) than that for 2010 ($2,271/kW)[13].

To be sure, there is a range in the published figures. The U.S. data includes one unit that has a capital cost of $1,355/kW – but also a unit that cost $5,350/kW. As discussed below, the TOR assumes that the best available control technologies for SO_2 and NO_x controls will not be employed in all options, which would reduce the capital cost of the project but increase the environmental costs by a greater amount as well as the environmental benefit claimed by the project. However, while the level of environmental performance falls short of what has been demonstrated in practice, it does meet EU Directive limits, but not BAT requirements. Decisions respecting the use of two pollution control technologies can have a significant impact on the cost of the Kosovo C Plant. The Project contemplates installation of Flue Gas Desulfurization system ("FGD") if a Pulverized Coal ("PC") is design is used, but not if a Circulating Fluidized Bed ("CFB") design is chosen. FGDs are relatively large and expensive pieces of equipment, the cost of which can approach 10 percent of overall plant costs.[14] The "Pre-Feasibility" cost estimate assumed that that the cost of the FGD would be offset by the more expensive cost for a CFB unit and assigned the same construction cost for each option. This is not an unreasonable assumption for the early stage of the process, but should be revisited before a determination of whether such units would constitute the lowest cost option is made.

[13] Ref, http://www.eia.gov/oiaf/beck_plantcosts/index.html

[14] The U.S. Energy Information Agency places the 2009 average cost of FGD controls at $186.73/kW http://www.eia.gov/cneaf/electricity/epa/epat3p11.html. However, there is a large variability in this figure; most of the units in this database are retrofit units that can be anticipated to cost more than new units, where the design anticipates the pollution control.

The proposed design also does not contemplate installation of an SCR, another fairly expensive, but highly cost effective, pollution control device. SCR costs range from $100/kW to 200/kW.[15] If required, this device would reduce NO_x emissions by up to 90 percent, but would increase the estimate of the LCOE. This does not impact the comparison of the cost of generation in other countries, because this technology has not been regularly required at lignite burning facilities with relatively low natural NO_x emission levels. Less capital expensive techniques are available to reduce NO_x emissions by 40 to 60 percent from uncontrolled levels.

Even in the United States, the cost of construction of new power plants can vary by up to 50 percent, depending on the region of the country in which it is installed. There are a number of factors that would suggest that the cost of construction in Kosovo is likely to above the average figures provided.

- **Kosovo does not have the capacity to manufacture the specialized components needed** – only a few countries do. Accordingly, the plant will essentially be imported and likely have to be shipped several thousands of miles.
- **Kosovo is land locked and so, the large components that will be fabricated elsewhere will then have to be trucked many miles over poorly maintained roads or rails** – negotiating switchbacks, tunnels and possibly requiring air lifting of heavy components at certain points.
- **Kosovo does not have the infrastructure to support such construction.** Accordingly, specialized equipment will have to be transported and maintained onsite, rather than being leased as needed.
- **Kosovo does not have a sufficient number of engineers, boilermakers and welders experienced in the construction of large power plants.** Thus, while some local labor can be employed, much of the labor will have to be brought in from other countries and housed on or near the site.
- While partial or full loan guarantees will help reduce financing costs, **the perception of the risk of investing in Kosovo will push lending costs and investor return demands upward.**
- **The planned Kosovo C units, at 300 ME each are relatively small.** Published cost figures show a clearly increased cost of construction per MW of capacity for smaller units.

Capacity Factors – Peaking vs. Base Load Generation

Electricity cannot be stored in any meaningful fashion[16] and so the amount of electricity that is produced at any point in time must be as a response to the demand within that system at that same point in time. Demand rises and falls with time of day, season of the year and weather, as each consumer turns on the lights or starts to cook a meal or as a factory commences a high demand activity. Accordingly, the low cost solution for meeting an area's energy needs will ordinarily be a mix of base

[15] See, Northeast States for Coordinated Air Use Management, *Control Technologies to Reduce Conventional and Hazardous Air Pollutants from Coal-Fired Power Plants*, March 2011. http://www.nescaum.org/documents/coal-control-technology-nescaum-report-20110330.pdf/

[16] Admittedly, the water that generates hydropower can often be stored during wet periods for some period of time.

load units that have a high capital cost, but low operating costs and overall COE, load-following units that have lower capital costs, higher operating costs and overall COE and peaking units, with lowest capital costs, but high operating costs and COE. In developed countries, base load units might be large coal-fired or nuclear plants that have long ramp up time[17], load following units might be smaller coal-fired units or combined cycle gas-fired units, while peaking units will typically be very small oil or gas-fired combustion turbines. Hydropower plants are especially well suited to peaking applications as the ramp up time can be quite rapid and the source for the power is susceptible of storage. In estimating cost of generation for base load units an 85 percent capacity factor is commonly employed, while peaking units may have utilization factors of 15 percent or less.

The "Kosovo C" plan put forward in the TOR makes no provision for temporal variation in load and assumes that Kosovo's electrical needs will largely be met by four base load units. No evaluation was conducted to determine the mix of base load, load following and peaking generation that would best fit Kosovo's usage profile. Instead, the TOR assumes that nearly all of Kosovo's demand will be met by four base load units. As a consequence, the system operator would need to continue to shed load during peak periods and/or continue to operate generating resources at lower utilization levels during non-peak periods. In the absence of units designed to respond to variation in load, it can reasonably be forecast that the Kosovo C units will not operate 85 percent of the time. For this reason use of an 85 percent capacity factor in the TOR and related documents for estimating LCOE is not appropriate. The *Kosovo Energy Sector Profile* published in 2005 reveals that load factors for existing generating units varied from 2.5 percent to 65 percent; the average load factor for the Kosovo system was 46 percent. The Profile asserts that these low load factors were the consequence of poor maintenance, but also references sharply higher load during peak demand periods. Until this issue is addressed, the least cost generation mix cannot be determined. However, it is possible to estimate the overall load factor for the proposed four base load unit system that has been proposed. **Using current demand, the load factor for these units would be below 50 percent.** Allowing the refurbished units to run as base load units (85 percent load factor) current levels of demand would result in utilization rates of less than 20 percent for the Kosovo C units even if excessive transmission losses are not corrected[18]. The utilization rate has a dramatic effect on LCOE.[19] While fuel costs decrease proportionally, the capital cost of construction (and associated financing costs) remains constant as generating capacity is idled. This fixed cost is then assigned to a smaller quantity of generation and must be paid for by increases in the per kW tariff paid by consumers.

The TOR asserts that any generation that is not needed in Kosovo could simply be exported to neighboring markets and some sales of electricity to neighboring countries have occurred. However, the TOR does not consider temporal load factors in those areas and does not establish that there is a market

[17] Such units cannot respond to short peaks or drops in demand without compromising the life expectancy of the unit.

[18] The operators of the future plant might prefer to run the Kosovo C units as "base load" and allow the Kosovo B units to operate at lower load factors. For purposes of analyzing whether there is a need for additional generation, however, the existing facility should be dispatched first.

[19] Under these conditions, the LCOE for the new Kosovo C units could exceed €150/MW.

for new base load generation of this magnitude in those areas. Attempting to serve peak demand in those areas with base load units simply broadens the problem and increases the high cost and inefficiency associated with operating capital intensive base load plants at low load factors.[20]

What additional *base load* generation does Kosovo need?

The TOR, Annex 1, asserts that the need for 600 MW of additional base load generation is demonstrated by the 2009 Annual Report Energy Report from Kosovo's Energy Regulatory Office that

> "[t]he gap between unmet electricity demand and generation was 477 GWh in 2009. The medium growth demand scenario 3 forecasts that electricity demand would rise to about 7,000 GWh in 2018."

These estimates do not support the need for 600 MW of new base load capacity as 477 GWh is only 64 MW of base load capacity[21] and 7000 GWh is only 340 MW of additional[22] base load capacity[23]. The 2009 Tariff application filed by KEK reveals that technical and "unaccounted for" losses amount to 1,400 GWh in 2008. This amount is three times the shortfall relied on to justify new base load capacity. **Simply reducing the reported "technical losses" from 15 percent to 5 percent of generation would save the reported current shortfall in generation. [24]**

The TOR predicts that there will be 7,000 GWh of electric power demand in Kosovo by 2016. This represents a 48 percent increase over 2008 consumption. Given the current economic climate in Europe (and elsewhere), an increase of this magnitude is unrealistic. Completing the refurbishing of Kosovo B, addressing transmission system losses as discussed above and completing the Zhur hydropower[25] plant project would provide an overall capacity of 6,146 GWh – 30 percent more than 2008 consumption. Additional reserve margins can be created by demand side management programs, minimizing theft of power and. Here it should be noted that the cost of generation avoided by utility managed conservation and demand side management (peak shaving) programs in the U.S. is reported to be less than $50/MWh.[26] This amount is less than the LCOE projected for new coal generation in the U.S. and less than the likely LCOE for the Kosovo Power Project.

Kosovo may well have a need for additional peaking and or load following capacity. This potential need was not addressed in any of the earlier studies and should be evaluated in depth before

---

[20] This inefficiency extends beyond the financial issues raised; thermal efficiency and pollution control device efficiencies tend to decline with variations in load.

[21] This calculation assumes a capacity factor of 85 percent.

[22] If Kosovo B were to operate at a capacity of 600MW and a load factor of 85 percent, it would generate 4,468 GWh of electricity, leaving a need for 2,532 GWh of electricity.

[23] Much of the shortage of electricity was associated with a shortage of fuel, not generation capacity.

[24] In its 2009 Tariff Application KEK reports that in 2008, 704,843 MWh of electricity (15 percent of total generation) were lost due to technical losses that were assigned to deficiencies in transformers and other elements of the transmission system. (704,843 MWh x .67 = 472,444 Mwh or 472 Gwh). This is in addition to 693,899 MWh which is reported as "unaccounted for." Presumably some amount of system demand that results from theft of power would be reduced if the user is required to pay for it.

[26] http://www.eia.gov/cneaf/electricity/epa/epaxlfile9_7.pdf

committing significant resources to additional base load capacity. The use of base load units as load following or peaking units should be reflected in the load factor used to calculate the COE.

Fuel Costs

The LCOE estimate in the TOR assumes a fuel cost of €0.89/GJ.[27] This assumption is based on "Pre-Feasibility" estimates of the capital and operating costs of opening a new lignite mine that relies on a 2002 study of a proposed new mine and does not incorporate documented worldwide producer cost increases due to inflation or inflation rates within Kosovo. The lignite cost estimate is also substantially lower than lignite and brown coal costs published by the CARDS Programme at that time for countries in the region:

Bosnia & Herzegovina	1.71 €/GJ
Bulgaria	0.88 €/GJ
FYR Macedonia	1.34€/GJ
Montenegro	2.44€/GJ
Romania	1.52€/GJ
Serbia	1.34€/GJ

While some trading occurs, because of the low heat content per volume of lignite, there is no commodity market and it is reported that prices tend to reflect the ease or difficulty of the mining and subsequent processing of the resource. The 2002 study reported that the indicated price was an "internal" KEK price, that a higher price was charged to private customers and that the cost did not include lignite management in the stockpile. More important is the fact that these estimates are now 10 years old and there has been a significant increase in the cost of producing lignite since the estimate was generated. The U.S. producer price index published by the Bureau of Labor Statistics reports that the cost of various lignite products has increase by 170 percent to 250 percent since December of 2001 and that some lignite products costs have increased by as much as 35 percent since June of 2008.[28] A review of the 2009 KEK Tariff Request suggests that these costs have indeed increased significantly.[29] Moreover, the lignite prices for the future will be determined by the relative ease with which lignite can be extracted from the new Slibovc Mine, not the characteristics of mines that had been previously developed and so it can readily be concluded that they are not well understood at this time.

Far more information is available today about the likely cost of fuel from the new mine

[27] GJ or Gigajoule is a measure of the energy content of coal and is often used as a way of comparing the cost of fuels with different head content. At the reported energy content of Kosovar lignite, this amounts to approximately €7.50/metric ton ("mt").

[28] http://www.bls.gov/web/ppi/ppitable06.pdf

[29] Additional information is needed before firm conclusions can be drawn. In particular, the nature of the expenditures by the KEK Supply operation were not available at this time and some portion of KEK mining needs is presumably for cleaning up earlier environmental contamination and closing the old mine. Nonetheless, at a "ballpark level" the needs attributed to KEK's mining operations in the 2009 Tariff Request are in the range of €1.50/GJ.

(including, for example, resettlement costs and overburden disposal costs) than was known in 2002. Rather than relying on 10 year old information, current data, including the extent of any KEK subsidy of lignite prices (that will presumably be eliminated if the operation is privatized), should be obtained, provided to the public and factored into more accurate fuel costs for the alternatives.

LEAST COST ALTERNATIVES ANALYSIS

Reducing electric demand by insulating residences, providing "time of day" rates and feed in tariffs for large commercial users and repairing known deficiencies in the transmission systems are quite likely to be the lowest cost measure for the Kosovar ratepayers – but these options have not been analyzed and their cost effectiveness has not been compared to the proposed options. In addition, hydropower in the region has been shown to be cost effective – but the impact and effectiveness of the planned Zhur HPP is not considered in the analysis. Given the substantial hydropower resources in the region, additional analysis of a wind/hydropower/thermal power exchange program, such as that employed by Denmark[30] and its neighbors should be conducted. So, too, should be the effect of reducing unit size and diversifying the mix of generation in reducing overall system costs by lessening the amount of reserve capacity dedicated to compensating for a unit that goes offline. The TOR examines none of these options. It also fails to consider the mix of base load, load following and peaking generation that will provide the low cost solution to Kosovo's energy needs. Instead, the TOR limits the alternatives analysis to a review of large, new baseline capacity fueled by lignite, oil and gas. Future gas price options are assumed to be too high for base load application, but no effort is made to evaluate gas-fired combustion turbines for peaking applications or combined cycle gas turbines for load following applications. The TOR devolves to an analysis of three options for 500-600 MW of new lignite-fired base load generation capacity. The resulting analysis dramatically understates the cost of electricity for a "baseline only" system forced to balance a continuingly varying load and fails to address the potential adverse impact on the Kosovar economy and standard of living of sharply increased costs of electricity. This mix of generation is contrary to what has been found to be cost effective in other countries, including countries with significant coal and lignite reserves.

ENVIRONMENTAL ISSUES

The TOR takes the position that the existing Kosovo units should be retired because they are "old[31]"and because Kosovo A is "the dirtiest plant in Europe." The environmental assessment identifies high particulate matter ("PM") emissions as a significant issue. However, much of the PM problem is

[30] See, e.g. http://en.wikipedia.org/wiki/Wind_power_in_Denmark

[31] The age of the facility is not as relevant as its physical condition. These facilities are among the "older" units in service, but there are many similar units throughout the world that have undergone life extension and environmental upgrade programs. The average age of coal-fired units in operation in the United States is over 40 years, and in some areas (e.g. the State of Michigan) the average age is over 50 years. These units are expected to remain in service for several decades. When faced with regulations requiring either shutdown or significant expenditures for environmental upgrades, most of the U.S. fleet of coal-fired plants chose to upgrade those facilities.

described as related to ash handling and fugitive emissions as well stack emission rates. Ground level emissions impact the nearby community far more than stack emissions. These emissions can and should be addressed, and the relevant systems should be improved, irrespective of whether a new plant is built. Reportedly, both Kosovo A and Kosovo B are equipped with electrostatic precipitators ("ESP") for control of PM stack emissions. Those controls had been allowed to deteriorate over the past two decades, but the ESP servicing the Kosovo B unit is being redesigned and refurbished. The June 2008, Environmental Assessment reports that no measurements of the rate of emissions for Kosovo A or Kosovo B are available,[32] but provides engineering estimates the current PM, SO_2 and NO_x emission rates. The Environmental Assessment also reports the applicable emission EU rates (which are akin to New Source Performance Standards ("NSPS") in the U.S. regulatory structure. As in the U.S. these emissions limits are only infrequently updated and so advances in pollution control technology are reflected in Best Available Technique determinations and the emission limitation that flow from those technologies[33]. The reported current emission levels, applicable EU limits and BAT guidance levels are

	PM (mg/Nm^3)	NO_x (mg/Nm^3)	SO_2 (mg/Nm^3)
Current Kosovo A emissions	700-1300	˜700	300
Current Kosovo B emissions	150-230	500	400
Applicable Kosovo A/B Limit[34]	50	500	400
Applicable Kosovo C Limit[35]	30[36]	500	200
Nominal BAT for modified units	5-20	50-200 (PC)	20-200 (PC) 20-200 (CFB)
Nominal BAT for new units[37]	5 -10[38]	50-150[39]	20 -150(PC)[40] 100-200 (CFB)

[32] This appears to be contradicted by other documents in the record.

[33] "Recital 8 of the LCP Directive states that "Compliance with the emission limit values laid down by this Directive should be regarded as a necessary but not sufficient condition for compliance with the requirements of Directive 96/61/EC regarding the use of best available techniques. Such compliance may involve more stringent emission limit values, emission limit values for other substances and other media, and other appropriate conditions." In the U.S., the analogous process is the Best Available Control Technology ("BACT") review under the PSD program of the Clean Air Act.

[34]These are the limits that would apply if Kosovo A were to be operated in the future and rated greater than 500 MW. Currently Kosovo A is subject to limit of 1200 mg/Nm^3 (SO_2); 600 mg/Nm^3 (NO_x) and 100 mg/Nm^3 (PM), applicable to units that are to be closed by 2016, but actual emissions are reportedly far less because of the characteristics of the coal employed.

[35] Assuming construction commences prior to January 1, 2016. Thereafter, the applicable limit would be 200 mg/Nm^3. This also assumes that an obligation to install BAT is not imposed.

[36] The Environmental Assessment reports this figure as 50 mg/Nm^3.

[37] See, European Commission, *Integrated Pollution Prevention and Control Reference Document on Best Available Technologies for Large Combustion Plants,* July, 2006. ("BAT Reference Document"). ftp://ftp.jrc.es/pub/eippcb/doc/lcp_bref_0706.pdf

[38] The BAT Reference Document indicates that FGD, combined with a fabric filter (bag house) and sorbent injection are considered BAT for limiting emissions of mercury.

[39] BAT reference emission rate does not assume use of SCR; with SCR the emission rate would be substantially lower. The 2006 BAT Reference Document is currently under review.

[40] The BAT reference emission rate does not assume a combination of CFB with FGD, as has been employed in the AES Puerto Rico and Dominion VCHEP (US) plants, among others. With this combination, an even lower rate of emissions has been demonstrated.

From this information several conclusions can be drawn respecting the relative stringency of EU Directive Limits:

(1) Since the going forward emission limits would be the same, **Kosovo C unit would provide no demonstrable improvement over PM emission performance of existing units.** Substantial improvements would be required in the rate of emissions of PM from existing Kosovo units if they are to operate in the future but both plants have had PM control devices installed that can be refurbished at far lower cost than new generation.;

(2) Since each of the units would be subject to the same emissions limitation going forward, **no demonstrable NO_x emissions performance improvement can be shown for Kosovo C over refurbishment of Kosovo B.** NO_x emission rates for existing Kosovo units are driven by the low heat value and high moisture content of the fuel. The reported current performance is near required future levels and could likely be achieved by relatively low cost installation of low NO_x burners and over fire air, the same technology anticipated for Kosovo C.

(3) **The relatively low reported uncontrolled SO_2 emission rates from Kosovo A and B appear to be a function of fuel characteristics and are estimated to meet (or come close to meeting) applicable EU limits.** Some form of minimal added SO_2 reduction technology might be required at Kosovo B. **The Kosovo C SO_2 limit is half of the limit applicable to Kosovo A and B and would require better performance in the future than that required of the refurbished Kosovo B unit.**

The proposal for the Kosovo C plant requires only that the new plant meet minimum EU Directive standards; it does not require that the plant use BAT. Importantly, there is no obligation under current Kosovar law to utilize BAT. While the law would likely change once Kosovo is admitted to the EU, it would provide no particular benefit if, the Kosovo C plant commences construction before a change in law is made effective. The proposed plant assumes low NO_x burners and over fire air for NO_x control, adding selective catalytic reduction ("SCR") would substantially improve NOx reduction. The proposed plant does assume an unspecified level of FGD utilization if a pulverized coal design is employed, but not if CFB design is selected. The BAT guidance emission limits that would be applicable to the construction of Kosovo C are only modestly more stringent, if at all, than those that would apply to the refurbishment of Kosovo B.

Finally, while there is some level of discussion of the environmental benefits of high-efficiency designs, that reduce emissions of GHG, mercury and other toxic air pollutants as well as the conventional pollutants discussed above, the RFP requests only a minimum thermal efficiency of 37 percent[41]. This level of efficiency is far below what can be achieved at new plants and would lead to GHG and other emissions approximately 10 to 15 percent greater than would occur if currently achievable efficiencies were required. Moreover, the specified minimum level of thermal efficiency has been achieved at units designed and built decades ago and may be no greater than the design efficiency the Kosovo A and B units, assuming proper operation and maintenance of those units.

[41] The average thermal efficiency of all lignite Large Combustion Plants ("LCP") in Germany is given at 38 percent.

It has been represented that the project is carbon neutral. This statement is correct only if you just limit the project evaluation to replacing Kosovo A generation with Kosovo C generation, and you only consider the emissions after completion of construction of the Kosovo C plant and demolition of Kosovo A. Replacing Kosovo A with a new Kosovo C will involve very substantial GHG emissions from the manufacture and transportation of very sizable quantities of steel, concrete and other commodities for the new units as well as emissions associated with the decommissioning of Kosovo A. It is also not true if the construction and operation of the Kosovo C plant is compared to the mix of available options described in this report or if one assumes that you are running all four units at an 85 percent load factor compared to today's overall load factor of 46 percent.

CONCLUSION

The information provided in the TOR does not provide a basis for determining that the proposed Kosovo C project is in the county's best interest. Until Kosovo's load pattern is defined, the most cost effective mix of base load, load following and peaking units cannot be determined. It can reasonably be asserted, however, that attempting to serve the constantly varying electric demands with only base load designed units is not the most cost effective mix. Where the average load factor for the system is currently under 50 percent; assuming that, with the refurbished Kosovo B units in service, the Kosovo C units will also run 85 percent of the time is unrealistic. Assuming a reasonable load factor for these units doubles the predicted LCOE of those units. If one then simply adjusts the outdated cost estimates to reflect the change in the Power Capital Cost Index, the effect is to roughly redouble the predicted LCOE. The World Bank Group should carefully consider the risk of imposing such a large increase in the cost of electricity on the Kosovar economy before participating in such an effort. It should require an update of the true costs of the project and the impact on rates charged to consumers and businesses. It should also require a market study to determine whether there is any demand for off-peak power in the region.

It is clear that Kosovo has a need for significant capital expenditures to improve the quality of its electric power generating system, but only a limited ability to fund such projects. If approved, the Kosovo C project will likely constrain funding for other projects that, if considered in the alternatives analysis, would likely prove to be more cost effective and lock Kosovo into an inefficient "four base load unit" system for decades to come. Reducing transmission losses, funding the Zhur HPP project and conservation/demand side management programs have been mentioned, as has the likely need for natural gas fired load following and peaking units. None of these options was evaluated in the alternatives analysis. The World Bank Group should insist that an objective analysis of all available options be undertaken before agreeing to participate in the Kosovo C Project. Finally, it should be noted that this Review did not address the TOR's failure to incorporate the external costs of the proposed Kosovo C plant in its evaluation of the potential options.

Reevaluating Kosovo's Least Cost Electricity Option

Preliminary Evaluation of the World Bank's December, 2011 "Background Paper, Development and Evaluation of Power Supply Options for Kosovo"

Bruce C. Buckheit
January 2012

Prepared for:

The Sierra Club
The Kosovar Institute for Development Policy (INDEP)

EXECUTIVE SUMMARY

The Kosovo government, with the assistance of the World Bank Group, USAID and others, has embarked on an ambitious effort to replace half of its electric generating capacity with new base load, lignite-fired generating units, while refurbishing the other half of its generating capacity, over the next 4 years. Analysis of initial project documents provided by the World Bank Group revealed a number of critical flaws.

Subsequently the World Bank commissioned further analysis (World Bank Background Paper) that re-evaluated the electric supply options previously presented. The Background Paper corrects a number of grossly inaccurate assumptions in the earlier analyses: it recognizes the need for a diversity of energy generation capacity, the presence of significant clean energy generation potential, and the need to reduce losses and invest in energy efficiency. Nevertheless, it still fails to provide an accurate assessment of the least cost energy options for Kosovo. Specifically:

The Background Paper fails to demonstrate the need for a new base load coal plant: The Background Paper erroneously concludes that over 1,200 MW of base load generating capacity should be brought online before load following and peaking generating needs are determined, current distribution waste and theft are reduced to reasonable levels, and end use efficiency opportunities are quantified and implemented.

The Background Paper fails to analyze the economic impacts to the Kosovo economy, or to average ratepayers, of a costly new coal plant: Significant tariff increases will be needed to support financing of the simultaneous development of a new mine, renovation of Kosovo B plant and the construction of the proposed new 600 MW plant. However, Background Paper significantly underestimates the tariff increases that will be required in the near term,[1] and fails to examine the impacts of these increases on the Kosovo economy and quality of life of ratepayers.

[1] The analysis also adopts the incorrect assumption that tariffs have already been increased to fund the project.

Recommendations

Reduce losses and invest in energy efficiency: Reducing technical and non-technical losses to 5 percent or less should be a top priority and should be completed within the next 5 years. In addition, implementation of energy efficiency programs should have higher priority than construction of new generation capacity.

Invest in alternative peaking generation: It is neither technically nor economically feasible to cycle base load units such as proposed new coal plants to meet peaking needs. Investments in appropriate peaking assets are therefore required. Such assets include:

> **1) Hydro:** Development of the Zhur HPP is a critical component in addressing Kosovo's peaking needs and should be completed within 5 years. Further detailed analysis of load patterns should be conducted to determine whether Zhur HPP and smaller proposed hydropower plants are sufficient to supply present and anticipated peak power needs.
>
> **2) Imports:** A "time-of-day" analysis of past power purchases should be conducted to determine whether continued purchases of electricity from Albania are more cost effective than development of additional thermal peaking power.
>
> **3) Natural Gas:** Development of a natural gas transmission line would appear to offer numerous advantages for fuel diversity in areas of space heating, cooking, commercial/industrial development and transportation, in addition to providing a firm backup for renewable sources of electricity.
>
> **4) Wind:** The analysis of wind power potential cited in the WB Background Paper presents a more optimistic portrayal of potentially available wind resources than reflected in original project documents; importantly the wind resource is aligned with the time of greatest demand (winter). Hydropower and wind power are complementary sources – the peaking capacity of hydropower resources is thus extended where wind power is also available.

Renovate existing Kosovo B units: Renovation of Kosovo B plant is a top priority that should be completed before Kosovo A units are closed. Consideration should be given to staging the renovation of Kosovo B over

several shorter outage periods rather than attempting the renovation of each unit in a single eight-month outage.

Ultimately, our assessment of the World Bank's new paper strongly argues for the need for an independent alternative assessment that considers in analytic detail an added range of energy supply, transmission and distribution management, and end-use energy options. The Renewable and Appropriate Energy Laboratory at "the University of California, Berkeley (http://rael.berkeley.edu), is engaged in such an assessment and their findings will provide a much needed contribution to the future direction of Kosovo's energy system.

BACKGROUND: THE EXPERT PANEL TERMS OF REFERENCE AND ITS SHORTCOMINGS

In accordance with the World Bank's Strategic Framework for Development and Climate Change ("SFDCC"), the Bank drafted a "Terms of Reference" (TOR) for an Expert Panel to assess whether the proposed Kosovo Power Project meets World Bank policy requirements for coal-based power generation projects.

In November, 2011, the Sierra Club and the Kosovar Institute for Development Policy commissioned a review of the TOR by an independent consultant ("Sierra Club Review[2]"), which was provided to the World Bank and other interested parties. The Sierra Club Review found:

The TOR does not provide a sufficient analysis of the available alternatives and costs to establish compliance with the World Bank Group policy: The TOR analysis of the available alternatives and their costs was not sufficient to demonstrate that the proposed Kosovo Power Project would serve the needs of the public at a lower cost than the available alternatives, as required by the Strategic Framework on Development and Climate Change.

The project as described in the TOR does not address Kosovo's need for a mix of base load, load following, and peaking capacity: Efficiently functioning electric power generating systems must have a mix of base load, load following and peaking units. Nevertheless, the TOR limited its alternatives assessment to **base load** options. In so doing, it failed to recognize that given the high fixed cost

[2] Affordable Electricity for Kosovo? Available at: http://action.sierraclub.org/site/DocServer/Review_of_TOR_Final.pdf?docID=8341

of base load units, building and operating them at low capacity factors is not cost effective. Moreover, the TOR provided no information upon which the SFDCC Expert Panel could assess the relative amounts of **base load,** load following and peaking generation capacity that is needed. Nor did it provide any discussion of how load following and peaking capacity can best be obtained. Finally, the TOR presented no market analysis to support its assertion that a ready export market for excess base load power exists. As a result of these shortcomings, the TOR significantly underestimated the costs of electricity and overstated the potential for eliminating load shedding;

The project will significantly raise electricity rates for average Kosovans: The TOR cost estimates for new lignite-fired generation were significantly below published estimates of the current cost of such units, and did not account for the increase in cost since the original estimates were made. Replacing such a large percentage of the country's base load capacity over a span of only a few years will cause a substantial increase in the cost of energy that will adversely affect the economic development of Kosovo and the well-being its people; and

Kosovo does not need a new 600 MW base load coal plant: The TOR failed to analyze the impacts of ongoing projects such as the reduction in "technical" losses due to deficiencies in the transmission system, and the potential for development of the Zhur Hydropower Plant ("HPP"); or to assess other options such as the proposed new transmission line, a potential natural gas line, demand-side management initiatives, and power swaps with neighboring countries. Reducing current levels of "technical losses" associated with transmission system deficiencies and non-technical losses (theft) and adding needed peak generating capacity would eliminate the reported current shortfall in generation, and therefore the need for new lignite fired generation.

Ultimately, the Sierra Club Review demonstrated that the proposed Kosovo Power Project has not been shown to be more efficient than a system-wide solution that includes a mix of (1) reduction of transmission system losses; (2) demand side management; (3) base load lignite-fired generation from a refurbished Kosovo B plant; (4) peaking hydropower from within Kosovo and from neighbors with high HPP resources (and possibly wind power); and (5) peaking natural gas-fired units.

ANALYSIS OF WORLD BANK BACKGROUND PAPER

Subsequent to the Sierra Club Review, the World Bank commissioned further analysis by an external consulting firm and published it as a new "Background Paper" ("World Bank Background Paper') that re-evaluated the electric supply options presented in the TOR. The World Bank Background Paper corrects a number of grossly inaccurate assumptions in the TOR. It recognizes (a) the need for a diversity of energy generation capacity including a mix of base load, load following and peaking generating assets; (b) there is significant clean energy investment potential for renewable and other sources of load following and peaking generating resources; and (c) provides the data proving the need to reduce losses and invest in energy efficiency to eliminate the need for new capacity construction if technical and non-technical losses are reduced to reasonable levels and if energy efficiency programs are implemented.

Further, the WB Background Paper recognizes that there is insufficient information to accurately project future electric demand in Kosovo[3]. The WB Background Paper also provides additional useful data concerning load patterns in Kosovo that had not previously heretofore been available and which help to illustrate the type of analysis that should be undertaken to develop the least cost solution to Kosovo's energy needs.

These are welcome improvements over the original TOR. However, much of the substance of our original critique remains. Our preliminary review of the Background Paper finds the following:

The WB Background Paper fails to demonstrate the need for a new base load coal plant: It fails to identify the need for current or future base load generation. It erroneously concludes that over 1,200 MW of base load generating capacity should be brought online before load following and peaking generating needs are determined, current distribution waste and theft are reduced to reasonable levels, and end-use efficiency opportunities are quantified and implemented.

The WB Background Paper fails to properly analyze the economic impacts of a costly new coal plant on ratepayers and the Kosovo economy: Significant tariff increases will be needed to finance the simultaneous

[3] Background Paper: Development and Evaluation of Power Supply Options for Kosovo. Available at: http://siteresources.worldbank.org/INTENERGY2/Resources/Kosovo_generation_options_report_12312011.pdf

development of a new mine, renovation of the Kosovo B plant, and the construction of the proposed new 600 MW plant. However, Background Paper significantly underestimates the tariff increases that will be required in the near term, and fails to examine the impacts of these increases on the Kosovo economy and quality of life of ratepayers.

The WB Background Paper projects the anticipated average or "levelized" cost of generation throughout the period by using the LRAIC or "Long Run Average Incremental Cost" analysis, which averages the discounted cost of the project over the period from 2011 to 2050. This approach ignores the fact that investors and lenders will require a tariff that allows repayment of debt and equity over a much shorter period (typically 5-10 years for equity and 15 years for debt). For this reason, development of the proposed new Kosovo plant will require much higher tariffs in the near term than suggested in the WB Background Document.[4] To clarify the magnitude of the tariff increases that would be necessary to repay lenders and investors, the Bank should conduct a year-by-year analysis of the projected annual revenues needed to support the proposed capital improvements. This, then, should be compared with the year-over-year revenue needed to finance other alternatives, including the more modest approach suggested herein. Each of these analyses should incorporate more reasonable estimates of the cost of lignite, typical financing provisions for similar high-risk projects in underdeveloped countries and the likely need for some additional fossil-fired peaking capacity.

Recommendations

Renovate existing units prior to construction of a new plant: Renovation of Kosovo B plant is a top priority that should be completed before Kosovo A units are closed. Consideration should be given to staging the renovation of Kosovo B over several shorter outage periods rather than attempting the renovation of each unit in a single eight-month outage after the new plant is constructed.

Reduce losses and invest in energy efficiency: Reducing technical and non-technical losses to 5 percent or less should be a top priority and should be completed within the next 5 years. The document assumes non-technical losses can be reduced to 5 % within 5 years simply due to privatization of the system, but that technical losses will only be cut from 16 to 8 percent by 2025. This suggests a lack of commitment to reducing technical losses and an overly

[4] The analysis also knowingly adopts the incorrect assumption that tariffs have already been increased to fund the project.

optimistic view of how easy it will be to reduce theft of power. Adequate commitment to reducing technical losses could achieve this goal in less than 5 years.

In addition, implementation of energy efficiency programs should have higher priority than construction of new generation capacity.

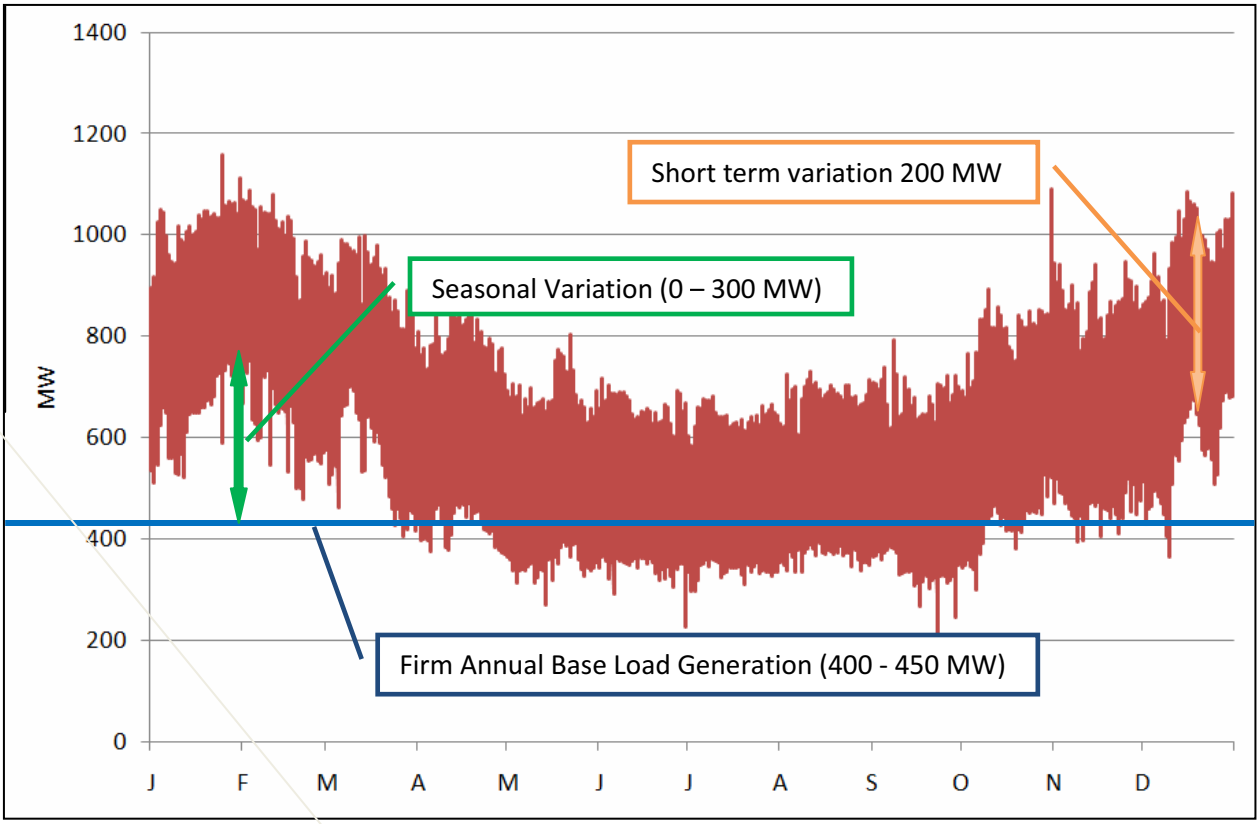
Invest in alternative peaking generation: It is neither technically nor economically feasible to cycle base load units such as new coal plants to meet peaking needs. Investments in appropriate peaking assets are therefore required. Such assets could include:

1) Hydro: Development of the Zhur HPP is a critical component in addressing Kosovo's peaking needs and should be completed within 5 years. Further detailed analysis of load patterns should be conducted to determine whether Zhur HPP and smaller proposed hydropower plants are sufficient to supply present and anticipated peak power needs.
2) Imports: A "time-of-day" analysis of past power purchases should be conducted to determine whether continued purchases of electricity from Albania are more cost effective than development of additional thermal peaking power.
3) Natural Gas: Development of a natural gas transmission line would appear to offer numerous advantages for fuel diversity in areas of space heating, cooking, commercial/industrial development and transportation, in addition to providing a firm backup for renewable sources of electricity.
4) Wind: The analysis of wind power potential cited in the WB Background document presents a more optimistic portrayal of potentially available wind resources than reflected in the WB Background document. Importantly the wind resource is aligned with the time of greatest demand (winter). Hydropower and wind power are complementary sources – the peaking capacity of hydropower resources is thus extended where wind power is also available.

KOSOVO 2010 GENERATION AND CONSUMPTION DATA ANALYSIS

The WB Background Paper includes plots of electric consumption (including technical and nontechnical losses) for 2010. These plots are reproduced and annotated below.

Chart No 1 2010 Generation over time



Net consumption by consumers (residential and commercial) is reported in the WB Background Paper at 57 per cent of the amounts generated. Thus, the actual base load consumption (assuming no losses) in 2010 was met by 228 MW of generation. If the "distribution" losses are reduced from 17 percent to 5 percent and "commercial" losses similarly reduced from 24 percent to 5 percent (and assuming a price elasticity of -0.4) then net base load consumption rises by an equivalent of 11.4 MW (since those who had been getting "free" (i.e. stolen) or unmetered electricity would now pay for and consume 60 percent of the earlier amounts). However, net base load consumption rises to 80 per cent of firm base load net generation – and can be met by 320-340 MW of firm annual base load generation. Thus, if distribution and "commercial" losses are reduced to levels commonly experienced throughout the world, a refurbished Kosovo B (618 MW

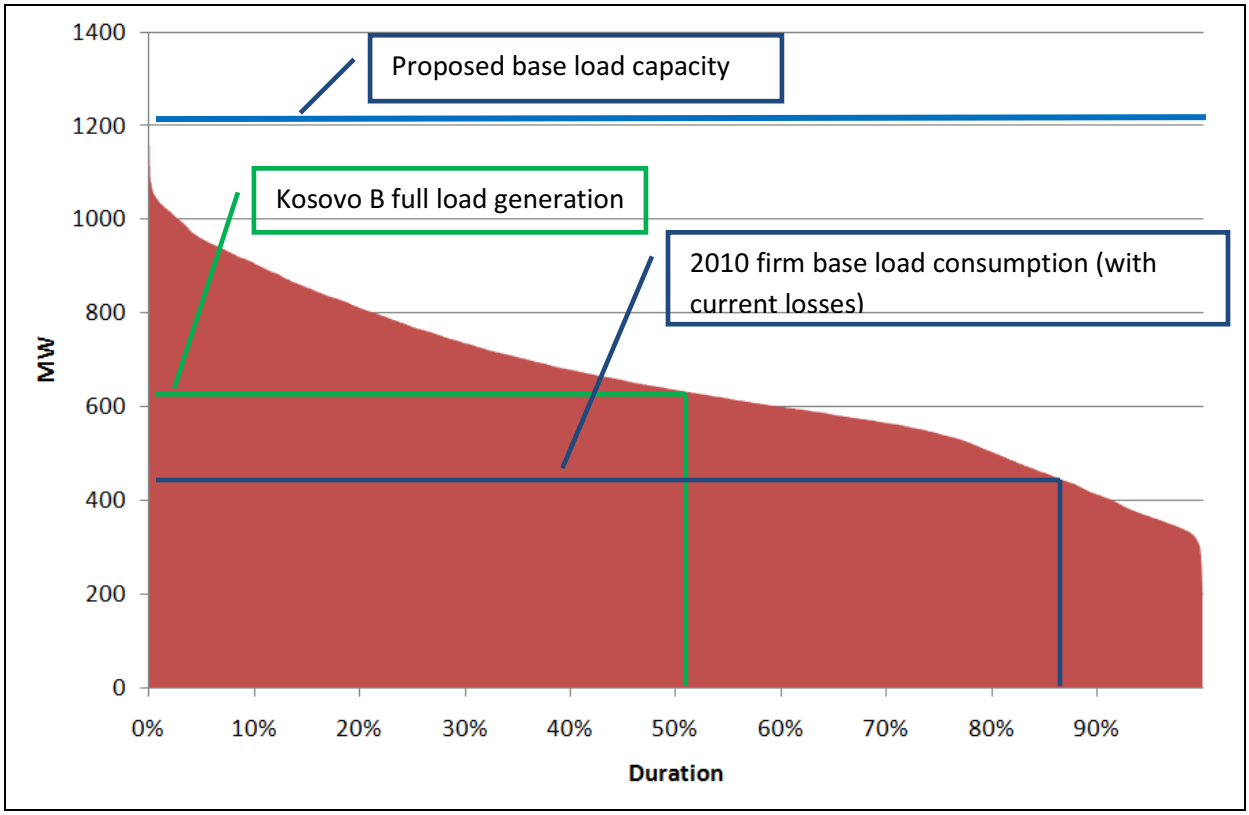
net generation) could of supply almost twice the firm base load consumption as occurred in 2010.

A review of the current daily generation and demand forecast by KEK reveals that current needs for peaking generation are as suggested by the above data. Daily variations in demand are approximately 200MW. The hourly rate of change in demand in the morning and evening exceeds 50MW/hr which is largely met by purchased power (imports). The WB Background document reports that import prices for peaking power are up to €113/MWh and that imports are not available at some times of peak demand, leading to load shedding. This is consistent with pricing patterns in the United States. While the full distribution of hourly import prices has not been evaluated, it appears likely that the Zhur power plant (at the WB estimate of €96/MWh) is more cost effective than purchasing power to serve peak needs. However, the estimated annual capacity of Zhur is only about half of the peaking power needs of Kosovo and so some continued purchases or additional peaking generation capacity will likely be needed.

The WB Background document explicitly does not evaluate options for developing gas-fired peaking capacity. Rather, its discussion of gas fired alternatives is limited to base load generation. In that analysis, it assigns the entire cost of a 20 inch diameter, 268 km long pipeline[5], from Sofia to Pristina to the base load gas fired plant. While it may make sense in the long term to construct a large diameter natural gas pipeline to serve a variety of commercial, industrial and residential needs (including space heating and transportation) in or near Pristina, there is no reason why the additional electric generating capacity cannot be located closer to existing or proposed natural gas pipelines. The option of simply connecting to pipeline configurations that have already been proposed is dismissed with the comment that one cannot “depend on these proposals in the medium term.” In particular, the possibility of locating fossil fired peaking units near the proposed Zhur hydropower plant, so as to minimize the amount of electric transmission upgrades that would be required and to facilitate load management, should be evaluated.

[5] This is a far larger diameter pipeline than would be needed to support the needed gas fired capacity.

Chart No. 2 Cumulative Generation



The data from Chart No. 2 shows that, with 2010 levels of technical losses and theft, the firm base load level[6] was slightly above 400 MW and that the generation needed to meet demand (and cover losses) would have required full load operation of a refurbished Kosovo B plant only 50 percent of the time. If technical and non-technical losses are each reduced to five percent, the values of the vertical axis of the chart are reduced by 20 percent.[7] The full base load need of the system is reduced to 340 MW and a refurbished Kosovo B plant would only need to operate at full load 20 percent of the time to meet this demand. If the full base load demand is assumed to grow by the high end suggested by the World Bank Background Paper (4.5 percent per annum), the

[6] The firm base load level is the net generation produced by a unit operating at capacity factors typically assumed for base load units – 85 to 90 percent. The impact of the capacity factor on the cost of generation is quite significant. By way of illustration, if one assumes that repayment of debt and equity will require revenues of €150 million per year for a 600MW plant, at 85 percent capacity factor (typical for base load units), the cost will be €33.57/MWh; at a 15 percent capacity factor (representative of peaking units) the portion of the overall cost that is needed to service debt rises to €228/MWh.

[7] Since it is reasonable to assume that the reduction in losses is uniform across the load profile the shape of the curve should not vary significantly, but simply be reduced such that, where the vertical axis in Chart 2 reads 400 MW, it would become 320 MW and where the vertical axis of the Chart reads 800 MW, it would become 640 MW. The proposed base load capacity would remain at 1200 MW.

refurbished Kosovo B plant has the capacity to meet this demand through 2023. At the alternate growth rate analyzed in the Background Paper (2.9 percent) the refurbished Kosovo B plant would have the capacity to serve base load demand through 2030. In addition, energy efficiency programs, implemented at only a 10 percent effectiveness level add additional years to the period of time before additional base load capacity would be needed. Deferring construction of new base load capacity until it is actually needed would (1) facilitate development of additional renewable energy options and, (2) allow Kosovo to retire the debt associated with refurbishment of Kosovo B and improving its transmission and distribution systems before incurring additional debt for new capacity.

OBSERVATIONS

- Load shedding is primarily related to peak loads and will not be addressed by additional base load capacity.
- Under the Background Paper's analysis, construction of the new plant will waste or "strand" a significant portion of the value of the Kosovo B plant since the analysis assumes that Kosovo B plant will operate at less than its design capacity (with load factors from 33 to 50 percent).
- Any evaluation of whether the new plant should be constructed should assume full economic utilization of the refurbished Kosovo B plant.
- If, for purposes of the analysis,[8] one assumes that Kosovo B is the lead plant (and is therefore dispatched first) then load factors identified by the WB Background paper for the new plant will be between 33 and 55 percent, a range which is not commercially viable or justified compared to a gas plant.
- Much of the analysis of the need for base load capacity in the Background Paper is actually based on projections of peak (not base load) demand. The Background Paper thus incorrectly suggests that the need for "new firm capacity" – which may be peaking or base load capacity – should be met by new firm base load capacity.

[8] The WB Background Paper assumes that thermal units will be dispatched in order of operating costs and that the new unit will have lower operating costs than Kosovo B. However, since Kosovo B's capital costs are far less than the new unit, it should be considered the "given" first step. The question then becomes, if Kosovo B is refurbished, what additional generation does Kosovo actually need?

ADDITIONAL CONCERNS[9]

In addition to the specific issues arising out of the WB Background Document addressed above, the Sierra Club, the Kosovar Institute for Development Policy and other interested parties continue to have additional concerns and objections with respect to the TOR and the proposed power project. These additional concerns include the following:

Mine complex: According to the original TOR, the WB Background paper must include consideration of the coal mine complex required for the project. However, there are no costs associated with the mine complex in the WB Background paper. The mine complex itself is a component of the Bank-supported project - even if it is not a direct project component, these costs therefore must be considered as an "associated facility" according to World Bank policies. Specifically, the lignite project cost analysis completely omits substantial costs associated with the coal mine operations, including, inter alia: expansion of mining operations, resettlement, road upgrades/maintenance, mine reclamation, and ash dump costs (associated with mining and Kosovo C). Based on an analysis carried out by Vattenfall of the new mine to serve the new power station with 600MW capacity an investment of $300 million in constant prices over the period 2007-2038 would be required10.

Highly Stressed Water Supply: Kosovo B and the new Kosovo C power plant will both get their water supply from the Iber-Lepence water system. This water system is already assessed to be "severely stressed11." The World Bank-utilized water supply study12 appears to have underestimated requirements for potable water, hydropower, and irrigation. Given the shortcomings of the water supply study, the proposed Lignite Power Project needs to prepare an accurate water supply analysis. Moreover, the Project needs to clearly demonstrate that the determined necessary water system improvements will be completed before commencement of the Project and that a comprehensive, feasible water management plan will be implemented that ensures reliable water supply to the residential, agricultural, industrial, and energy sectors.

Resettlement: Resettlement has been identified as a major impact that the

[9] The analysis in this section was contributed by Heike Meinhardt of Bank Information Center
[10] Kosovo Lignite Power Initiative Proposed Lignite Power Development Project (LPDP): Economic Analysis
[11] Currently, the water exploitation index (WEI) is assessed at 50% for an average year. Severe water stress can occur where the WEI exceeds 40%.
[12] Water supply from the Iber-Lepenc hydro system for the proposed Kosovo C power plant (February 2008), funded by the European Agency for Reconstruction (EAR) and developed by COWI consortium.

World Bank Kosovo Lignite Power Project will have on the local population. Resettlement will be necessary mainly due to the coal mine field development aspect of the project, but also from the new power plant and related facilities and infrastructure. If resettlement is determined to be possible in the Kosovo Lignite Power Project, the project will require significant permanent relocation and rehabilitation of land, which are associated with high resettlement costs. On average, World Bank-supported hydropower projects' completion reports indicate resettlement costs of an average of 11 percent of overall project costs. Accordingly, resettlement costs for the Kosovo Lignite Power project are an estimated $33 million.

Impacts on Agriculture: The agriculture sector is the highest employer in Kosovo and 60% of the project-affected region's population are farmers. The impacts the new project will have on agriculture have not been adequately assessed, accounted for in the project costs, nor has adequate compensation been guaranteed. In addition to the unresolved water supply issues that will impact irrigation, the project will also involve agricultural land acquisition. The New Mining Field area is mainly inhabited by large families who work in agricultural enterprises or independently as subsistence farmers. The new mine will acquire approximately 13% of the territory of the Obiliq Municipality. The SESA concluded that "There is not enough replacement agricultural land to resettle people who rely on farming for their livelihoods." The Resettlement Policy Framework for Land Acquisition for the New Mining Field does not address this specific problem.

CONCLUSION

- Kosovo's 2010 electric "base load" consumption, including waste and theft, would be met by slightly more than 400 MW of base load generation, far less than the 618 MW net generation that would be provided by the refurbished Kosovo B plant.
- Reducing technical and non-technical losses to 5 percent (each) would reduce the needed base load 2010 capacity by 20 percent to 320-360 MW – again, far less than the 1,200 MW of base load capacity suggested by the World Bank documents.
- Energy efficiency efforts would reduce this need even further and would allow Kosovo B to meet base load generation needs through 2025 – even at a 4.5 per cent per annum increase in GDP.

- Seasonal base load variation would be met through greater utilization of Kosovo B in the near term; planning efforts should anticipate that annual base load will grow and that, at some point seasonal capacity that is economically efficient at 20 – 40 percent load factors will need to be added.

The proposed construction of 600MW of new base load generating capacity would lead to base load generating capacity that is three times higher than existing demand in 2010 and four times higher when corrected for avoidable losses. It would require Kosovo consumers (or the government) to service over a billion euro in debt at a time when they are also servicing debt for necessary improvements in the Sibovc mine, Kosovo's wasteful transmission and distribution systems, and refurbishment of Kosovo B. The Background Paper presents an "economic analysis" but is careful to note that this is not the same as a "financial analysis." In other words, the Background Paper does not examine the impact of the proposed excess base load capacity on tariffs. It assumes that the government will continue to subsidize rates, even after the system is privatized and that current levels of theft of electricity will be wholly eliminated. The Background Paper does not present an estimate of the increase in tariffs that would be needed, or the impact of those increases on GDP or demand for electricity. However, with substantially less than full load operation of 1,200 MW of base load generation, it is feasible that tariffs up to four times higher than current rates would be needed to service the total new investments.

The Background Paper suggests committing to the construction the new plant before refurbishing Kosovo B and aggressively reducing losses or developing needed peaking and load following capacity. This sequencing would be wasteful and imprudent.[13] Refurbishment of Kosovo B is far more cost effective than construction of a new plant and provides a number of years of base load capacity. If, after the "low hanging fruit" of extremely cost effective measures are captured, it appears that additional base load generation will be required, there will be ample time to plan for and construct any needed capacity. However, once the proposed new plant is built, there will be substantial bulk excess capacity in the system. This will create perverse incentives to increase the use of electricity to justify the initial investment. In this way, committing to construction of the new unit at this time will undermine efforts to reduce transmission losses and theft and end user energy efficiency. It will also undercut development of the most cost-effective mix of generating resources in Kosovo.

[13] A recent experience in the United States demonstrates the economic consequences of building capacity before demand exists. See, http://www.startribune.com/business/134647533.html

ISSUES OF NON-COMPLIANCE WITH THE WORLD BANK'S *CRITERIA FOR SCREENING COAL PROJECTS UNDER THE STRATEGIC FRAMEWORK FOR DEVELOPMENT AND CLIMATE CHANGE*

Steve Herz
March 06, 2011

Prepared for:

Introduction

As the World Bank's Independent Evaluations Group has concluded, the Bank's resources "are best spent in helping clients find domestically preferable alternatives to coal power, such as through increased energy efficiency. Coal support should be a last resort when lower cost and concessionally-financed alternatives have been exhausted and when there is a compelling case WBG support would reduce poverty or emissions."[1]

Towards this end, the *Strategic Framework for Development and Climate Change (SFDCC)* sets out specific conditions that must be met before the World Bank can provide support for new coal power projects.[2] Under the *SFDCC*, the World Bank must determine that:

(i) there is a demonstrated developmental impact of the project including improving overall energy security, reducing power shortage or access for the poor;
(ii) assistance is being provided to identify and prepare low-carbon projects;
(iii) optimization of energy sources by considering the possibility of meeting the country's needs through energy efficiency (both supply and demand) and conservation;
(iv) after full consideration of viable alternatives to the least-cost (including environmental externalities) options and when the additional financing from donors for their incremental cost is not available;
(v) coal projects will be designed to use the best appropriate available technology to allow for high efficiency and therefore lower GHG emissions intensity; and
(vi) an approach to incorporate environmental externalities in project analysis will be developed.

To promote consistency and rigor in the application of these requirements, the Bank has issued *Operational Guidance for World Bank Group Staff: Criteria for Screening Coal Projects under the Strategic Framework for Development and Climate Change (Operational Guidance)*.[3] The *Operational Guidance* sets out specific "monitoring indicators" that staff must use to determine whether the *SFDCC* criteria have been met. It also provides that for each proposed project, the Bank will engage an "External Panel of Experts" to independently evaluate the quality of compliance with the screening criteria.[4]

In the case of the proposed Kosovo Power Project, the Expert Panel delivered its report to the Bank in January, 2012.[5] With limited "reservations" and "modifications" the Expert Panel found that the project complies with the six *SFDCC* criteria. However, the Expert Panel failed to

[1] IEG, 2010. *Climate Change and the World Bank Group: Phase II The Challenge of Low-Carbon Development,* at ix.
[2] World Bank, 2008. *Development and Climate Change: A Strategic Framework for the World Bank Group*.
[3] World Bank, 2010. *Operational Guidance for World Bank Group Staff: Criteria for Screening Coal Projects under the Strategic Framework for Development and Climate Change*.
[4] *Operational Guidance*, at 4.
[5] Beér, Mielczarski and Taylor, (2010). *Kosovo: Kosovo Power Project Report of the SFDCC External Expert Panel to the World Bank*.

adequately address several important areas of non-compliance with the *SFDCC* criteria. Specifically, the Kosovo Power Project does not meet the *SFDCC* criteria with respect to:

1. Criterion 1: Development impact;
2. Criterion 2: Assistance for low-carbon alternatives;
3. Criterion 3: Assessment of efficiency options; and
4. Criteria 4 and 6: Assessment of externalized costs and potential support for incremental costs.

In light of these shortcomings, the Kosovo Power Project cannot be said to be in compliance with the *SFDCC* criteria.

1. The Project does not meet the requirements of Criterion 1, because the Bank has not adequately demonstrated a developmental impact in terms of increasing energy access for the poor.

The *Operational Guidance* requires that a proposed coal-fired power plant demonstrate development impact by (a) increased access to electricity; and/or (b) improved system reliability.

The *Expert Panel Report* found that the project complied with the energy access criterion because the new plant would make up for the loss of capacity from the closure of the Kosovo A plant, and would help reduce the country's supply/demand gap.

Energy access, however, is a question of more than just supply/demand balance. It also encompasses issues of price, income, and affordability for vulnerable groups. Accordingly, the *Expert Panel Report* should have also addressed whether the proposed project will be able to deliver adequate energy services at affordable rates.

In fact, significant tariff increases will be needed to finance the simultaneous development of a new mine, renovation of Kosovo B plant and the construction of the proposed new 600 MW plant. Indeed, because this investment will create more baseload capacity than Kosovo needs, at least some of these units will operate at substantially less than full load. As a result, it is feasible that tariffs up to four times higher than current rates would be needed to service the total new investments.[6] Yet, the *Background Paper* significantly underestimates the tariff increases that will be required in the near term, and the *Background Paper* and *Expert Panel Report* fail to examine the impacts of these increases on the Kosovo economy and quality of life of ratepayers. In addition, the project will privatize the existing power plant "Kosova B", thus creating a *de facto* generation monopoly. This will in turn hit hard the consumers with increases in electricity tariffs. This plant is profitable on its own and does not require to be privatized in order to be revitalized.

[6] Buckheit, 2012. *Reevaluating Kosovo's Least Cost Electricity Option Preliminary Evaluation of the World Bank's December, 2011 "Background Paper, Development and Evaluation of Power Supply Options for Kosovo"*, available at http://action.sierraclub.org/site/DocServer/Reevaluating_Kosovo_s_Least_Cost_Options_for_Electricity.pdf?docID=8861

2. **The Project does not meet the requirements of Criterion 2, because insufficient assistance is being provided to identify and prepare specific low-carbon projects for development.**

The *Operational Guidance* sets out specific actions the World Bank must take to assist in identifying and preparing low-carbon projects. These requirements vary depending on the current state of the host country's low-carbon planning and investment. The *Operational Guidance* distinguishes between three scenarios.

(1) Where studies, policies and/or national strategies for promoting renewable energy, energy efficiency and other low-carbon interventions are not available, the Bank must provide technical assistance to help prepare them;

(2) Where such studies have already been prepared, the Bank must provide technical assistance to help develop and design a pipeline of bankable projects and other lower carbon interventions. If other donors are also supporting the preparation of bankable projects in the host country, the Bank's work must be additional to these efforts; and

(3) Where studies and projects design and/or national strategies for promoting renewable energy, energy efficiency and other low-carbon interventions have already been prepared, the Bank must either (a) support the financing of bankable projects and/or implementation of policy recommendations as part of the project; and/or (b) ensure that access to finance for these projects is available from other sources. If the defined pipeline of projects or policy implementation action plan allows for the engagement of several donors, the Bank's financing must be incremental to the efforts of others.[7]

The Expert Panel found that the Project complied with this criterion, based on the fact that (a) several studies of renewable energy alternatives have been conducted; (b) grant assistance is being provided for studies on wind potential, carbon capture and storage, and solar power and water heating; (c) an investment credit is proposed to be provided by the Bank for further work on energy efficiency improvements and renewables; and (d) the Government of Kosovo has instituted a feed-in tariff for small scale hydro and wind.[8]

However, the fact that a number of studies have been conducted or are planned, and a limited set of policies have been adopted, is not sufficient to satisfy the requirements of the *Operational Guidance*. Rather, the *Operational Guidance* makes clear that the Bank must take affirmative steps to develop and fund bankable projects and policy initiatives, above and beyond what others are supporting. The Expert Panel did not discuss any commitment on the part of the Bank to provide assistance to develop and support any specific projects or policy initiatives.
For example, although it referred to the Bank's support for the update of the feasibility study of Zhur, it did not address whether the Bank will actually fund the project. Moreover, private investors in Kosovo have already developed a significant pipeline of renewable energy projects.

[7] *Operational Guidance*, at 6-7.
[8] *Expert Panel Report*, at 10.

Although investors have sought licenses for over 200 MW of hydro and wind from the Kosovan Energy Regulatory Office, these requests have not been processed in a timely fashion.[9] Under the third scenario of the *Operational Guidance*, the Bank should evaluate these projects, and ensure that the bankable projects receive financing, either from the Bank or other sources. , before moving forward with the current project.

Moreover, the Expert Panel assumes that the criterion does not require it to review the quality or comprehensiveness of the studies that have been undertaken. Rather, it assumes that the fact that they exist is sufficient. Therefore, the Expert Panel simply lists the studies that have been conducted, without offering any independent assessment of their rigor. This approach would appear to violate the spirit and intent of this criterion. It seems evident that the criterion is intended to ensure project decision-making is made on the basis of a rigorous and comprehensive assessment of renewable energy and energy efficiency alternatives. Studies that are done poorly or are not considered in decision-making should not suffice. Accordingly, the Expert Panels treatment of these studies is inadequate.

3. <u>The Project does not meet the requirements of Criterion 3, because the Bank has not fully evaluated the possibility of meeting the country's needs through energy efficiency (both supply and demand) and conservation.</u>

The *Operational Guidance* specifies actions that the Bank must take in two different scenarios:

(1) Where energy efficiency studies have already been prepared, the Bank must (a) quantify the reduced energy consumption that would allow the country to avoid/delay the planned increase in power generating capacity from the national or sub-national baseline value; and (b) define the policies and regulations necessary for the above interventions to be made effective, including for pricing strategies (increased cost recovery from tariffs and enhanced collections, targeting of energy subsidies or other methods, including minimum efficiency standards).[10]

(2) Where energy efficiency studies have not been conducted, the Bank must support their preparation and implementation, and assess the potential savings generated from both supply-side reduction of losses in generation and/or transmission and distribution and demand-side management programs to reduce electricity consumption that would allow to avoid/delay the proposed power generating capacity additions.[11]

The Expert Panel found that the project mostly complied with this criterion. It noted the "considerable efforts" of the Government of Kosovo to improve the efficiency of both supply and demand. It found that on the supply side, "the new project would result in considerable improvements in the efficiency of electricity generation and consume significantly less fuel per unit of electricity produced than the present plants…" On the demand side, the Expert Panel

[9] These needless delays have raised suspicions that they are intended to keep the "need" for a new coal plant alive in the public debate.
[10] *Operational Guidance*, at 8.
[11] *Operational Guidance*, at 8.

found "there are a number of projects and actions that have been implemented in Kosovo, ranging from awareness raising to improving the energy efficiency of many public buildings."

However, the Expert Panel also expressed reservations, based on the need for increased effort to reduce energy demand and the technical and commercial losses related to electricity supply. Overall, it found that "while energy efficiency measures are unlikely to alter the need for new power generating capacity, they should be important elements of Kosovo's energy strategy."

The Expert Panel's treatment of this issue is wholly inadequate. The *Operational Guidance* places the burden of proof on the Bank to quantify the efficiency opportunities that are available, and to demonstrate that they are not sufficient to avoid or delay the proposed generation expansion, before going forward with the project.[12] Here, there is no evidence in the Report that the Bank has fully quantified the potential energy savings from supply- and demand-side energy efficiency initiatives.

Rather than point out this shortcoming, however, the Expert Panel treats this issue in conclusory fashion, offering its (apparently unsubstantiated) view that "energy efficiency measures are unlikely to alter the need for new power generating capacity."[13] In fact, Kosovo's energy system is highly inefficient. On the supply-side, for example, over 37 percent of overall generated and imported electricity is lost. Over 20 percent of this loss is a commercial loss (mainly theft). The overall losses of electricity equal or exceed the overall production of Kosova A. Kosovan energy company (KEK) has continuously failed to tackle this problem due to the lack of institutional support, mainly that of courts and police. With support, this problem is readily solvable, and would have enormous impact.

Moreover, the Expert Panel inexplicably treats the new plant itself as a supply-side efficiency initiative. This contradicts the clear objective of this criterion, to assess efficiency <u>alternatives</u> to the proposed project that could enable Kosovo to "to avoid/delay the planned increase in power generating capacity."[14]

Due to these shortcomings, the Expert Panel should not have found even partial compliance with this requirement.

[12] *Operational Guidance*, at 8.
[13] *Expert Panel Report*, at 10.
[14] *Operational Guidance*, at 8. Treating the project itself as an efficiency improvement over Kosova A is also inconsistent with the base case analysis used by the Expert Panel in Criterion 1. In the Criteria 1 analysis, the Expert Panel assumes that Kosova A will be retired, and that the project will make up for its lost supply and thus expand energy access to the poor. Here, the Expert Panel assumes that Kosova A will continue to be operated, and therefore that the proposed project represents an efficiency improvement over the base case.

4. **The Project does not meet the requirements of Criteria 4 and 6, because the Bank has not fully accounted for the Project's environmental externalities, and because the Bank has failed to consider how any incremental costs of low-carbon alternatives could be covered by additional financing from other sources.**

Criterion 4 of the *Operational Guidance* requires the Bank to conduct a "least-cost analysis" that (a) quantifies environmental externalities; (b) demonstrates that the project is least cost after full consideration of alternatives and after factoring in environmental externalities costs; (c) assesses incremental costs of alternative options (with and without environmental externalities); and (d) evaluates switching prices between the proposed project and alternative low-carbon options [expressed in US$/ton CO_2]. In addition, Criterion 6 requires that a methodology be developed for assessment of net local (SO_x, NO_x and PM) and GHG emissions at the project level, and that such methodologies inform the analysis of alternatives and least cost options under Criterion 4.

Moreover, where low-carbon alternatives carry an incremental cost over the proposed project, Criterion 4 requires the Bank to (a) identify and evaluate external funding sources to meet the incremental financial cost gap between the proposed project and a lower carbon alternative, and (b) explain the steps it has taken to access such sources, including carbon market, GEF, CTFs, and bilateral donors.

The Bank has met neither the requirement to fully assess and compare the internal and externalized costs of the proposed project and low-carbon alternatives, nor the requirement to identify potential sources of incremental financing for low-carbon alternatives, where the proposed project is determined to be the least-cost alternative.

First, the Bank has not fully explored all potential alternatives. As noted above, the Bank has not fully explored the opportunities to improve efficiency, and the Expert Panel conceded that neither wind nor natural gas alternatives have been fully analyzed.[15]

Second, there are compelling reasons to doubt that the proposed project is in fact the least-cost alternative. The Expert Panel cites the World Bank *Background Paper* of December 2011 as the basis for this conclusion, but analyses by the Renewable and Appropriate Energy Laboratory at the University of California Berkeley, and the Kosovar Institute for Development Policy and Sierra Club contradict that conclusion.[16] These studies found that the proposed project will be extremely costly and will necessitate a sharp increase in tariffs, and that a mixture of efficiency and renewable alternatives can provide a lower cost alternative. The Bank should re-evaluate the assumptions and methodology of the December 2011 in light of these studies before concluding that the proposed project is indeed the low cost alternative.

---

[15] *Expert Panel Report*, at 11.

[16] Daniel M. Kammen, M. Mozafari and D. Prull, 2012. *Sustainable Energy Options for Kosovo An analysis of resource availability and cost.* Available at, http://rael.berkeley.edu/energyforkosovo; Buckheit, 2012. Reevaluating Kosovo's Least Cost Electricity Option Preliminary Evaluation of the World Bank's December, 2011 "Background Paper, Development and Evaluation of Power Supply Options for Kosovo", available at http://action.sierraclub.org/site/DocServer/Reevaluating_Kosovo_s_Least_Cost_Options_for_Electricity.pdf?docID=8861

Third, the Bank has failed to adequately internalize all relevant environmental costs. Thus, the *Expert Panel Report* fails explain how the Bank has assessed, quantified and internalized the impacts of the rehabilitated Kosovo B and the new Kosovo C power plant on competing uses and environmental values in the "severely stressed" [17] Iber-Lepence water system.[18]

The Bank has also failed to internalize the costs of the mine complex. The *Operational Guidance* is clear that the impacts of upstream activities such as coal mining and processing must be internalized if they are "developed for the purposes of supplying fuel feed stock for specified coal-based power generation facilities…."[19] Although the proposed new mine complex clearly meets this standard, neither the *Expert Panel Report* nor the *Background Paper* quantifies or internalizes the substantial costs associated with the mine's development and operations, including those caused by expansion of mining operations, resettlement, impacts on local agriculture, road upgrades and maintenance, mine reclamation, and ash dump costs (associated with mining and Kosovo C).

Fourth, even assuming that the proposed project is the least-cost option including externalities, the Bank must still "identify and evaluate external funding sources to meet the incremental financial cost gap between the proposed project and a lower carbon alternative." It is entirely insufficient to simply conclude that there is a cost gap; the Bank must also determine that the cost gap cannot be filled by other sources. However, the *Expert Panel Report* provides no discussion of whether the Bank has undertaken this analysis, or reached out to other potential funders. The requirements of this criterion have not been met until alternatives for incremental cost financing such as the CDM, the GEF, the CTF, and other multilateral and bilateral donors have been explored and exhausted.

Conclusion

In light of the shortcomings identified above, it is evident that the Bank has not satisfied the letter or the spirit of the *SFDCC* criteria. In short, it has not met its burden of showing that no lower cost or concessionally-financed alternatives are available, or that Bank support for this project is the best way to expand energy access and meet the pressing energy needs of Kosovo. That being the case, it would not be appropriate for the Bank to provide support for this project.

[17] Currently, the water exploitation index (WEI) is assessed at 50% for an average year. Severe water stress can occur where the WEI exceeds 40%.

[18] The World Bank-utilized water supply study appears to have underestimated competing demands for requirements for potable water, hydropower, and irrigation. COWI, 2008. *Water supply from the Iber-Lepenc hydro system for the proposed Kosovo C power plant.*

[19] *Operational Guidance*, at 3.

ANALIZA E SHPENZIMEVE TË VITIT 2005 PËR LËNDIME NË KEK DHE DIVIZIONE

	J A N A R -2005							SHKURT -2005							MARS -2005							Janar-Mars:2005						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	20	8		1		2	**31**	28	5				3	**36**	24	7		4		1	**36**	72	20		5		6	**103**
Nr. lënd. që krij. shpenz.	17	6		0		0	**23**	24	4				2	**30**	19	4		3		1	**27**	60	14		3		3	**80**
Orët e humbura	1,384	552		0		0	**1,936**	2,681	448				144	**3,273**	1,848	288		208		104	**2,448**	5,913	1,288		208		248	**7,657**
Eurot (€)	2,299	884		0		0	**3,183.31**	3,865	668				213	**4,746**	2,816	484		293		159	**3,752**	8,980	2,036		293		372	**11,681.34**
Shfryt. e FL të mëhersh	40	12		3		6	**61**	17	10		1		5	**33**	36	12		2		3	**53**	93	34		6		14	**147**
Orët e humbura	5,152	1,432		344		576	**7,504**	2,552	1,824		160		656	**5,192**	5,880	1,808		248		432	**8,368**	13,584	5,064		752		1,664	**21,064**
Eurot (€)	8,459	2,321		496		795	12,070.08	3,908	2,938		40		823	**7,710**	8,916	2,673		492		604	**12,685**	21,283	7,932		1,028		2,222	**32,464.64**

	Prill -2005							MAJ -2005							QERSHOR -2005							Prill-Qershor:2005						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	17	4		4		4	**29**	17	8		2		3	**30**	17	6		2		3	**28**	51	18		8		10	**87**
Nr. lënd. që krij. shpenz.	12	3		2		3	**20**	12	6				3	**21**	15	5				2	**22**	39	14		2		8	**63**
Orët e humbura	1,000	328		64		400	**1,792**	1,200	552				216	**1,968**	1,376	296				208	**1,880**	3,578	1,176		64		824	**5,640**
Eurot (€)	1,573	467		102		672	**2,814.40**	1,904	857				300	**3,061**	2,148	469				286	**2,903**	5,625	1,793		102		1,258	**8,778.15**
Shfryt. e FL të mëhersh	41	7		3		3	**54**	30	7		4		3	**44**	35	10		2		4	**51**	106	24		9		10	**149**
Orët e humbura	5,784	1,096		504		504	**7,888**	4,376	864		336		416	**5,992**	5,208	1,176		232		536	**7,152**	15,368	3,136		1,072		1,456	**21,032**
Eurot (€)	8,986	1,732		720		761	12,199.45	6,557	1,347		587		740	**9,232**	8,147	1,761		345		902	**11,155**	23,691	4,841		1,653		2,403	**32,586.67**

	KORRIK -2005							GUSHT -2005							SHTATOR -2005							Korrik-Shtator:2005						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	14	6		1		1	**22**	14	6		3		3	**26**	4	3		3			**10**	32	15		7		4	**58**
Nr. lënd. që krij. shpenz.	12	6		2		1	**21**	3	6		2		3	**14**	7	1		3			**11**	22	13		7		4	**46**
Orët e humbura	984	488		272		64	**1,808**	176	560		256		424	**1,416**	616	40		464			**1,120**	1,776	1,008		992		488	**4,344**
Eurot (€)	1,439	701		564		64	**2,767.37**	281	878		391		563	**2,113**	1,001	63		782			**1,847**	2,720	1,643		1,737		627	**6,726.93**
Shfryt. e FL të mëhersh	36	11		1		2	**50**	38	13		1		2	**54**	32	15		4		1	**52**	106	39		6		5	**156**
Orët e humbura	5,040	1,664		168		296	**7,168**	6,328	2,056		184		208	**8,776**	4,784	2,000		536		176	**7,496**	16,152	5,720		888		680	**23.440.00**
Eurot (€)	7,889	2,561		247		399	**11,095.51**	9,849	3,018		271		271	**13,410**	7,491	3,047		809		237	**11,584**	25,229	8,626		1,327		907	**36,089.23**

	TETOR -2005							NËNTOR -2005							DHJETOR -2005							Tetor-Dhjetor:2005						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	10	6		5		1	**22**	15	9		2		3	**29**	17	4		3		2	**26**	42	19		10		6	**77**
Nr. lënd. që krij. shpenz.	4	5		2	1	12	**11**	7					3	**21**	11	3		2		2	**18**	26	15		4		6	**51**
Orët e humbura	504	416		176		80	**1,176**	720	776				232	**1,728**	888	168		176		136	**1,368**	2,112	1,360		352		448	**4,272**
Eurot (€)	719	682		259		99	**1,759.57**	1,287	1,141				327	**2,755**	1,321	251		269		189	**2,031**	3,328	2,075		528		615	**6,545.56**
Shfryt. e FL të mëhersh	32	12		4		1	**49**	31	12		4		1	**48**	30	16		5		3	**54**	93	40		13		5	**151**
Orët e humbura	4,680	1,656		640		160	**7,136**	4,712	1,808		640		160	**7,320**	4,504	2,192		792		392	**7,880**	13,896	5,656		2,072		712	**22,336**
Eurot (€)	7,454	2,560		1,072		215	**11,301**	7,363	2,920		1,213		216	**11,712**	7,162	3,522		1,320		576	**12,580**	21,980	9,002		3,605		1,007	**35,594.32**

Shpenz për shkak të aksid. për **2005**		Puntor	(€)Euro	orë (h)	% (€)	€/punt		(h)/1 puntor
KEK		**7,498**	170,466.84	109,785	100	22.73		14.64
DPQ		3427	112,833.80	72,377	66.19	32.92		21.12
DGJE		1554	37,948.22	24,488	22.26	24.42		15.76
DRr		1609	10,273.58	6,400	6.03	6.39		3.98
Dfur		500	9,411.24	6,520	5.52	18.82		13.04
Të tjera		408	360.00	360	0.21	0.88		0.88

	Totali: Janar-Dhjetor 2005						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	197	72		30		26	**325**
Nr. lënd. që krij. shpenz.	147	56		16		21	**240**
Orët e humbura	13,377	4,912		1,616		2,008	**21,913**
Eurot (€)	20,652	7,547		2,660		2,873	**33,731.98**
Shfryt. e FL të mëhersh	398	137		34		34	**603**
Orët e humbura	59,000	19,576		4,784		4,512	**87,872**
Eurot (€)	92,182.00	30,401.0		7,614.00		6,539.00	**136,734.86**

ANALIZA E SHPENZIMEVE TË VITIT 2006 PËR LËNDIME NË KEK DHE DIVIZIONE

	J A N A R -2006							SHKURT -2006							MARS -2006							Janar-Mars:2006						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	16	6		3	1	1	**27**	21	5		0	0	1	**27**	10	4		1	1	2	**18**	47	15		4	2	4	**72**
Nr. lënd. që krij. shpenz.	14	2		1	0	1	**18**	17	5		0	0	0	**22**	7	3				2	**12**	38	10		1		3	**52**
Orët e humbura	704	152		56	0	56	**968**	1,832	584		0	0	0	**2,416**	704	176				96	**976**	3,240	912		56		152	**4,360**
Eurot (€)	1,107	263		151	0	138	**1659**	2,854	904		0	0	0	**3,756**	1,035	305				152	**1,492**	4,996	1,472		151		290	**6,909.39**
Shfryt. e FL të mëhersh	16	10		3	3	2	**34**	68	9		2	3	1	**83**	65	8		5	3	2	**82**	149	27		9	9	5	**199**
Orët e humbura	1,886	1,056		432	424	160	**3958**	5,608	1,216		320	480	160	**7,784**	7,256	1,248		496	552	264	**9,816**	14,750	3,520		1,248	1,459	584	**21,558**
Eurot (€)	3,083	1,668		669	656	255	**6331**	8,780	1,926		471	743	394	**12,315**	11,369	1,908		743	854	456	**15,331**	23,231	5,502		1,883	2,253	1,105	**33,975.07**

	Prill -2006							MAJ -2006							QERSHOR -2006							Prill-Qershor:2006						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	12	5		0	1	0	**18**	20	7			3		**30**	11	8		2			**21**	43	20		2	4		**69**
Nr. lënd. që krij. shpenz.	10	5		0	0	0	**15**	17	7			3		**27**	8	5		2			**15**	35	17		2			**57**
Orët e humbura	704	360		0	0	0	**1,064**	1,486	600			414		**2,500**	768	632		216			**1,616**	2,958	1,592		216	414		**5,180**
Eurot (€)	1,110	611		0	0	0	**1,720.92**	2,208	1,238			660		**4,105**	1,336	1,074		373			**2,783**	4,653	2,923		373	660		**8,609.31**
Shfryt. e FL të mëhersh	36	8		0	1	2	**47**	58	10			1		**69**	62	12		2	3		**79**	156	30		2	5	2	**195**
Orët e humbura	4,944	1,144		0	152	304	**6,544**	5,296	1,400			72		**6,768**	6,384	1,760		208	504		**8,856**	16,624	4,304		208	728	304	**22,168**
Eurot (€)	7,454	1,553		0	214	482	**9,703.34**	8,231	1,756			114		**10,101**	9,787	2,863		354	799		**13,803**	25,472	6,172		354	1,127	482	**33,607.09**

	KORRIK -2006							GUSHT -2006							SHTATOR -2006							Korrik-Shtator:2006						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	14	3		0	1		**18**	18	5		2	1		**26**	11	4		2	1		**18**	43	12		4	3	0	**62**
Nr. lënd. që krij. shpenz.	10	3		0	0	0	**13**	17	5		2	1		**25**	9	2		2			**13**	36	10		4	1	0	**51**
Orët e humbura	894	174		0	0	0	**1,070**	1,718	672		120	184		**2,694**	712	184		168			**1,064**	3,326	1,030		288	184	0	**4,828**
Eurot (€)	1,408	288		0	0	0	**1,696.00**	2,605	1,027		196	271		**4,099**	1,027	336		261			**1,624**	5,040	1,652		456	271	0	**7,418.34**
Shfryt. e FL të mëhersh	39	13		3	3	0	**58**	49	11				1	**61**	44	14		2		1	**61**	132	38		5	3	2	**180**
Orët e humbura	6,704	2,066		504	240	0	**9,514**	7,819	1,952				184	**9,955**	5,784	2,064		288		160	**8,296**	20,307	6,082		792	240	344	**27,765**
Eurot (€)	10,548	3,418		808	381	0	**15,155.13**	12,393	3,167				259	**15,819**	8,932	3,202		468		225	**12,827**	31,872	9,787		1,276	381	484	**43,800.68**

	TETOR -2006							NËNTOR -2006							DHJETOR -2006							Tetor-Dhjetor:2006						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	13	3		2	1	1	**20**	9	2		1	2		**14**	9	3			1		**13**	31	8		3	4	1	**47**
Nr. lënd. që krij. shpenz.	11	2		2	1	0	**16**	7	2			1		**10**	7	3					**10**	25	7		2	2	0	**36**
Orët e humbura	1,072	120		256	80	0	**1,528**	640	144			56		**840**	568	288					**856**	2,80	552		256	136	0	**3,224**
Eurot (€)	1,618	180		397	127	0	**2,322.29**	996	218			82		**1,297**	1,143	42					**1,184**	3,757	440		397	209	0	**4,803.29**
Shfryt. e FL të mëhersh	31	14		3	1	1	**50**	32	11		3	1	1	**48**	34	9		5	1	1	**50**	97	34		11	3	3	**148**
Orët e humbura	4,808	2,176		504	168	168	**7,824**	5,160	1,744		504	168	168	**7,744**	4,093	1,184		760	152	152	**6,341**	14,061	51,104		1,768	488	488	**21,909**
Eurot (€)	7,444	3,389		809	247	237	**12,126.01**	7,924	2,756		807	266	237	**11,990**	6,754	1,898		1,197	214	214	**10,277**	22,122	8,043		2,813	728	687	**34,393.05**

Shpenz për shkak të aksid. për **2006**		Puntor	(€)Euro	orë (h)	% (€)	€/punt		(h)/1puntor
KEK		**7404**	173,516.22	110,992	100	23		16
DPQ		3531	121,141.99	77,546	70	34		22
DGJE		1636	35,992.26	23,096	21	22		14
DRR		1006	7,703.07	4,832	4	8		5
DFUR		806	5,629.15	3,646	3	7		5
TJERA		425	304975	1872	1	14		8

	Totali: Janar-Dhjetor 2006						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	164	55		13	13	5	**250**
Nr. lënd. që krij. shpenz.	134	44		9	6	3	**196**
Orët e humbura	11,804	4,086		816	734	152	**17,592**
Eurot (€)	18,445	6,488		1,378	1,140	290	**27,740.33**
Shfryt. e FL të mëhersh	534	129		27	20	12	**722**
Orët e humbura	65,742	19,010		4,016	2,912	1,720	**93,400**
Eurot (€)	102,697	29,505		6,326	4,489	2,759	145,775.89

ANALIZA E SHPENZIMEVE TË VITIT 2007 PËR LËNDIME NË KEK DHE DIVIZIONE

	J A N A R -2007						SHKURT -2007						MARS -2007						Janar-Mars:2007					
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	14	5		2	1	0	**22**	6	5		1	1	0	**13**	10	4		1	3	0	**18**	30	14		4	5	0	**53**
Nr. lënd. që krij. shpenz.	12	4		1	1	0	**18**	5	5		0	0	0	**10**	10	4		0	2	0	**16**	27	13		1	3	0	**44**
Orët e humbura	896	280		144	64	0	**1384**	544	352		160	0	0	**1056**	846	320		0	80	0	**1246**	2286	952		304	182	0	**3686**
Eurot (€)	1,422.72	403.17		220.1	101.5	0	**2147.49**	856	622		245	0	0	**1723**	1,428	637		0	127	0	**2192**	3706.72	1662.17		465.1	228.5	0	**6062.49**
Shfryt. e FL të mëhersh	29	6		3	1	0	**39**	31	6		3	3	0	**43**	30	10		3	1	0	**44**	90	22		9	5	0	**126**
Orët e humbura	4224	816		320	168	0	**5528**	4,824	872		480	480	0	**6656**	4,866	1,760		528	72	0	**7,226**	13914	3448		1328	720	0	**19410**
Eurot (€)	6633.96	1209.23		498.3	266.5	0	**8607.99**	7,669	1,225		761	791	0	**10446**	7,639	2,732		838	114	0	**11323**	21941.96	5166.23		2097.3	1171.5	0	**30376.99**

	Prill -2007							MAJ -2007							QERSHOR -2007							Prill-Qershor:2007						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	10	4		0	2	0	16	11	5		2		-	18	6	9		3		-	18	27	18		5	2	-	**52**
Nr. lënd. që krij. shpenz.	8	3		0	2	0	13	8	5		1		-	14	5	7		1		-	13	21	15		4		-	**40**
Orët e humbura	784	320		0	144	0	1248	960	448		16	-	-	1,424	616	536		96		-	1,248	2,360	1,304		256	144	-	**4,064**
Eurot (€)	1,405	487		0	216	0	2109	1,554	765		24		-	2,343	1,010	873		146		-	2,029	3,969	2,126		386	216	-	**6,696.98**
Shfryt. e FL të mëhersh	26	13		2	0	0	41	31	12		3		-	46	29	9		4	-	-	42	86	34		9	-	-	**129**
Orët e humbura	4,096	1,928		320	0	0	6344	4,470	1,656		528		-	6,654	4,268	1,024		640		-	5,932	12,834	4,608		1,488	-	-	**18,930**
Eurot (€)	6,462	3,071		489	0	0	10023	8,101	2,413		827		-	11,341	7,889	1,603		988		-	10,480	22,452	7,088		2,304	-	-	**31,844.39**

	KORRIK -2007							GUSHT -2007							SHTATOR -2007							Korrik-Shtator:2007						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	7	3		1	0	1	12	14	1		1	0	0	**16**	7	4		3	0	0	**14**	28	8		5	0	1	**42**
Nr. lënd. që krij. shpenz.	6	3		1	0	1	11	9	1		1	0	0	**11**	4	3		2	0	0	**9**	19	7		4	0	1	**31**
Orët e humbura	560	184		56	0	176	976.00	832	40		80	0	0	**952**	448	352		184	0	0	**984**	1840	576		320	0	176	**2912**
Eurot (€)	887.8	278		95	0	176	1437.18	1,273	59		118	0	0	**1450**	740.97	571.96		307.49	0	0	**1620.42**	2901.77	909.08		521	0	176	**4507.6**
Shfryt. e FL të mëhersh	31	10		6		0	47	31	8		8	0	1	**48**	32	5		5	1	1	**44**	94	23		19	1	2	**139**
Orët e humbura	4,838	1,558		1,056		0	7452.00	5,006	1,032		1,008	0	184	**7230**	4,590	696		784	80	40	**6190**	14434	3286		2848	80	224	**20872**
Eurot (€)	9,027.35	2,414		1,618		0	13059.04	7,302	1,625		1,636	0	184	**10747**	8,212.80	1,163.76		1,264.73	136.09	40	**10817.38**	24542.15	5202.45		4519	136	224	**34623.42**

	TETOR -2007							NËNTOR -2007							DHJETOR -2007							Tetor-Dhjetor:2007						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	8	3		1	0	0	**12**	4	4		3	0	0	11	7	4		3	0	0	**14**	19	11		7	0	0	**37**
Nr. lënd. që krij. shpenz.	7	1		1	0	0	**9**	2	1		1	0	0	4	2	3		3	0	0	**8**	11	5		5	0	0	**21**
Orët e humbura	536	16		144	0	0	**696**	144	120		136	0	0	400	184	144		280	0	0	**608**	864	280		560	0	0	**1704**
Eurot (€)	827	24		245	0	0	**1096.00**	313.2	190.4		207.9	0	0	711.5	288	218		472	0	0	**978**	1428.2	432.4		924.9	0	0	**2785.50**
Shfryt. e FL të mëhersh	27	7		4	0	0	**38**	29	8		5	0	0	42	29	8		5	0	0	**42**	85	23		14	0	0	**122**
Orët e humbura	4334	1032		704	0	0	**6070**	4592	1321		840	0	0	6753	4064	1232		648	0	0	**5944**	12990	3585		2192	0	0	**18767**
Eurot (€)	7646	1778		1127	0	0	**10551.00**	7640	2078.1		1332.4	0	0	11050	6643	1910		1008	0	0	**9561.0**	21928.77	5766.1		3467.4	0	0	**31162.27**

Shpenz për shkak të aksid. për **2007**		Puntor	(€)Euro	orë (h)	% (€)	€/punt		(h)/1puntor
KEK		**7498**	148,059.64	90,383.00	100.00	19.75		12.05
DPQ		3427	102,870.88	61,522	69.48	30.02		17.95
DGJE		1554	28,351.83	18,039	19.15	18.24		11.61
DRR		1609	14,684.38	9,296	9.92	9.13		5.78
DFUR		500	1,752.55	1,126	1.18	3.51		2.25
TJERA		408	400.00	400	0.27	0.98		0.98

	Totali: Janar-Dhjetor 2007					
	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	104	51		21	7	1	**184**
Nr. lënd. që krij. shpenz.	78	40		14	3	1	**136**
Orët e humbura	7,350	3,112		1,440	326	176	**12,404**
Eurot (€)	12,006	5,129		2,297	445	176	**20,052.57**
Shfryt. e FL të mëhersh	355	102		51	6	2	**516**
Orët e humbura	54,172	14,927		7,856	800	224	**77,979**
Eurot (€)	90,865	23,222		12,388	1,308	224	**128,007.1**

ANALIZA E SHPENZIMEVE TË VITIT 2008 PËR LËNDIME NË KEK DHE DIVIZIONE

	J A N A R -2008						SHKURT -2008						MARS -2008						Janar-Mars:2008					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	8	4	6	1	0	**19**	4	4	5	0	0	**13**	8	6	5	2	0	**21**	20	14	16	3	0	**53**
Nr. lënd. që krij. shpenz.	4	3	3	1	0	**11**	4	2	4	0	0	**10**	7	3	4	2	0	**16**	15	8	11	3	0	**37**
Orët e humbura	392	296	168	96	0	**952**	432	152	224	0	0	**808**	776	264	440	168	0	**1648**	1600	712	832	264	0	**3408**
Euro (€)	560.6	452.28	263.72	135.17	0	**1411.77**	654.44	227.31	363.13	0	0	**1244.88**	1262.9	396.23	704.28	431.03	0	**2794.4**	2477.89	1075.82	1331.13	566.2	0	**5451.04**
Shfryt. e FL të mëhersh	23	10	5	0	0	**38**	31	12	8	1	0	**52**	31	14	11	1	0	**57**	85	36	24	2	0	**147**
Orët e humbura	3912	1384	768	0	0	**6064**	4912	1880	1152	168	0	**8112**	4424	1960	1392	160	0	**7936**	13248	5224	3312	328	0	**22112**
Euro (€)	6360	2156.19	1258.2	0	0	**9774.39**	7866.87	3028.4	1827.76	236.55	0	12959.54	7035	3062.96	2248	225.29	0	**12571.5**	21262.12	8247.51	5333.96	461.84	0	**35305.43**

	Prill -2008						MAJ -2008						QERSHOR -2008						Prill-Qershor:2008					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	12	7	1	0	0	**20**	6	6	3	1	0	**16**	12	7	2	0	1	**22**	30	20	6	1	1	**58**
Nr. lënd. që krij. shpenz.	8	6	0	0	0	**14**	6	4	3	1	0	**14**	12	6	2	0	1	**21**	26	16	5	1	1	**49**
Orët e humbura	1032	568	0	0	0	**1600**	544	472	240	56	0	**1312**	984	768	232	0	72	**2056**	2560	1808	472	56	72	**4968**
Euro (€)	1629.3	982.7	0.0	0.0	0.0	**2611.92**	878.53	721.11	470.57	95.26	0	**2165.47**	1770.35	1299.99	418.52	0	110.07	**3598.93**	4278.13	3003.77	889.09	95.26	110.07	**8376.32**
Shfryt. e FL të mëhersh	31	16	8	2	0	**57**	27	14	3	0	0	**44**	24	14	3	0	0	**41**	82	44	14	2	0	**142**
Orët e humbura	4600	2416	1216	352	0	**8584**	4128	2192	352	0	0	**6672**	3648	2160	480	0	0	**6288**	12376	6768	2048	352	0	**21544**
Euro (€)	7745.6	3750.1	1903.6	733.3	0	**14132.53**	6576.49	3589.88	567.08	0	0	10733.45	6263.4	3594.76	986.66	0	0	**10844.82**	20585.45	10934.72	3457.29	733.34	0	**35710.8**

	KORRIK -2008						GUSHT -2008						SHTATOR -2008						Korrik-Shtator:2008					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	11	4	2	0	0	**17**	7	6	2	0	1	**16**	6	4	5	0	0	**15**	24	14	9	0	1	**48**
Nr. lënd. që krij. shpenz.	11	2	0	0	0	**13**	6	5	1	0	0	**12**	4	3	5	0	0	**12**	21	10	6	0	0	**37**
Orët e humbura	1464	288	0	0	0	**1752**	400	536	120	0	0	**1056**	272	272	424	0	0	**968**	2136	1096	544	0	0	**3776**
Euro (€)	2534	440.28	0	0	0	**2974.64**	771.59	857.11	380.69	0	0	**2009.39**	538.26	461.34	770.06	0	0	**1769.66**	3844.21	1758.73	1150.75	0	0	**6753.69**
Shfryt. e FL të mëhersh	36	18	5	1	0	**60**	40	22	3	1	0	**66**	38	22	3	1	1	**65**	114	62	11	3	1	**191**
Orët e humbura	6240	3312	760	184	0	**10496**	6240	3400	504	168	0	**10312**	5712	3232	504	168	168	**9784**	18192	9944	1768	520	168	**30592**
Euro (€)	10746	5726.2	1392.6	345.79	0	**18210.99**	10956.7	5865.33	878.61	315.72	0	**18016.37**	10253.5	5415.4	897.9	315.72	187.31	**17069.9**	31956.6	17006.97	3169.17	977.23	187.31	**53297.28**

	TETOR -2008						NËNTOR -2008						DHJETOR -2008						Tetor-Dhjetor:2008					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	9	7	5	0	0	**21**	8	7	9	0	0	**24**	6	5	0	0	0	**11**	23	19	14	0	0	**56**
Nr. lënd. që krij. shpenz.	4	6	3	0	0	**13**	7	5	9	0	0	**21**	4	4	0	0	0	**8**	15	15	12	0	0	**42**
Orët e humbura	464	488	176	0	0	**1128**	560	232	664	0	0	**1456**	368	424	0	0	0	**792**	1392	1144	840	0	0	**3376**
Euro (€)	782.4	909.53	302.81	0	0	**1994.78**	992.56	405.52	1244.22	0	0	**2642.30**	678.5	738.58	0	0	0	**1417.08**	2453.5	2053.63	1547.03	0	0	**6054.16**
Shfryt. e FL të mëhersh	34	19	6	0	0	**59**	31	18	4	0	0	**53**	39	19	11	0	0	**69**	104	56	21	0	0	**181**
Orët e humbura	5184	3188	776	0	0	**9148**	4528	2600	880	0	0	**8008**	5800	3128	1168	0	0	**10096**	15512	8916	2824	0	0	**27252**
Euro (€)	9854	5548.16	1458.9	0	0	**16860.62**	8028.3	4552.21	1591.63	0	0	**14172.11**	10230.7	5481.3	2154.8	0	0	**17866.8**	28112.56	15581.66	5205.32	0	0	**48899.54**

Shpenz për shkak të aksid. për **2008**		Punëtor	(€)Euro	orë (h)	% (€)	€/punt	(h)/1punto
KEK		**7552**	199,848.26	117,028	100.00	26.46	15.50
DPQ		3406	114,970.46	67,016	45.10	33.76	19.68
DGJE		1589	59,662.81	35,612	21.04	37.55	22.41
DRR		1695	22,083.74	12,640	22.44	13.03	7.46
DFUR		456	2,833.87	1,520	6.04	6.21	3.33
TJERA		406	297.38	240	5.38	0.73	0.59

	Totali: Janar-Dhjetor 2008					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	97	67	45	4	2	**215**
Nr. lënd. që krij. shpenz.	77	49	34	4	1	**165**
Orët e humbura	7,688	4,760	2,688	320	72	**15,528**
Euro (€)	13,054	7,892	4,918	661	110.07	**26,635.21**
Shfryt. e FL të mëhersh	385	198	70	7	1	**661**
Orët e humbura	59,328	30,852	9,952	1,200	168	**101,500**
Euro (€)	101,917	51,771	17,166	2,172	187.3	**173,213.05**

ANALIZA E SHPENZIMEVE TË VITIT 2009 PËR LËNDIME NË KEK DHE DIVIZIONE

	J A N A R -2009						SHKURT -2009						MARS -2009						Janar-Mars:2009					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	8	6	0	1	1	**16**	6	6	2	0	1	**15**	13	8	2	1	0	**24**	27	20	4	2	2	**55**
Nr. lënd. që krij. shpenz.	3	5	0	1	1	**10**	3	5	2	0	1	**11**	9	5	0	1	0	**15**	15	15	2	2	2	**36**
Orët e humbura	296	520	0	112	64	**992**	256	472	160	0	56	**944**	856	488	0	80	0	**1424**	1408	1480	160	192	120	**3360**
Euro (€)	567.69	871.14	0	514.94	90.11	**2043.88**	435.50	907.20	284.50	0	164.50	**1791.70**	1410.9	844.6	0	252.9	0	**2508.4**	2414.08	2622.94	284.5	767.84	254.61	**6343.97**
Shfryt. e FL të mëhersh	33	17	0	0	0	**50**	35	22	3	0	1	**61**	35	19	4	0	0	**58**	103	58	7	0	1	**169**
Orët e humbura	4856	2248	0	0	0	**7104**	5230	2832	456	0	152	**8670**	6006	3256	704	0	0	**9966**	16092	8336	1160	0	152	**25740**
Euro (€)	9255	4016.1	0.0	0	0	**13271.02**	10347.50	4845.50	862.20	0.00	214.50	16269.70	11709.2	5555.8	1268.4	0	0	**18533.4**	31311.64	14417.34	2130.61	0	214.50	**48074.09**

	Prill -2009						MAJ -2009						QERSHOR -2009						Prill-Qershor:2009					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	6	5	3	0	2	**16**	6	6	6	1	0	**19**	10	9	1	2	0	**22**	22	20	10	3	2	**57**
Nr. lënd. që krij. shpenz.	6	4	3	0	0	**13**	5	6	5	0	0	**16**	8	8	1	0	0	**17**	19	18	9	0	0	**46**
Orët e humbura	416	312	192	0	0	**920**	288	480	336	0	0	**1104**	736	848	72	0	0	**1656**	1440	1640	600	0	0	**3680**
Euro (€)	759.1	573.9	364.1	0.0	0.0	**1697.19**	538.41	794.38	688.54	0	0	2021.33	1325.8	1548.9	144.83	0	0	**3019.54**	2623.34	2917.22	1197.5	0	0	**6738.06**
Shfryt. e FL të mëhersh	40	20	5	0	1	**66**	40	23	6	0	0	**69**	37	24	11	0	0	**72**	117	67	22	0	1	**207**
Orët e humbura	6126	2808	616	0	120	**9670**	5472	3144	912	0	0	**9528**	6318	4080	1880	0	0	**12278**	17916	10032	3408	0	120	**31476**
Euro (€)	11672.5	4978.1	1124.6	0.0	352.78	**18127.96**	10042.11	5627.6	1689.47	0	0	17359.18	10913	7156.1	3536.3	0	0	**21605.15**	32627.32	17761.83	6350.36	0	352.78	**57092.29**

	KORRIK -2009						GUSHT -2009						SHTATOR -2009						Korrik-Shtator:2009					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	8	13	1	2	0	**24**	9	5	6	1	2	**23**	9	2	1	0	0	**12**	26	20	8	3	2	**59**
Nr. lënd. që krij. shpenz.	8	10	1	2	0	**21**	3	2	3	1	1	**10**	7	2	0	0	0	**9**	18	14	4	3	1	**40**
Orët e humbura	576	696	96	160	0	**1528**	304	104	240	56	48	**752**	576	232	0	0	0	**808**	1456	1032	336	216	48	**3088**
Euro (€)	1134.4	1177.2	193.10	321.84	0	**2826.50**	503.36	194.12	426.48	112.64	81.66	**1318.26**	947.3	388.7	0	0	0	**1336.00**	2585.02	1760.02	619.58	434.48	81.66	**5480.76**
Shfryt. e FL të mëhersh	44	25	8	1	0	**78**	40	29	9	2	0	**80**	42	31	8	2	1	**84**	126	85	25	5	1	**242**
Orët e humbura	7248	3840	1344	184	0	**12616**	6136	4552	1352	336	0	**12376**	6352	4368	928	280	168	**12096**	19736	12760	3624	800	168	**37088**
Euro (€)	12909.7	6876.5	2598.76	370.10	0	22755.04	11358.5	7993.37	2557.41	675.86	0	22585.09	12102.6	7842.5	1698.1	563.2	187.3	**22393.7**	36370.7	22712.4	6854.27	1609.16	187.3	**67733.83**

	TETOR -2009						NËNTOR -2009						DHJETOR -2009						Tetor-Dhjetor:2009					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	8	8	7	1	0	**24**	10	8	7	8	0	**33**	7	5	4	1	0	**17**	25	21	18	10	0	**74**
Nr. lënd. që krij. shpenz.	8	7	5	1	0	**21**	7	6	7	5	0	**25**	5	3	3	1	0	**12**	20	16	15	7	0	**58**
Orët e humbura	960	792	200	104	0	**2056**	632	536	552	288	0	**2008**	464	224	280	136	0	**1104**	2056	1552	1032	528	0	**5168**
Euro (€)	1772.1	1343.22	428.04	209.2	0	**3752.59**	1101.8	959.65	1001.88	595.41	0	**3658.74**	784.27	385.6	498.85	312.6	0	**1981.32**	3658.2	2688.47	1928.77	1117.21	0	**9392.65**
Shfryt. e FL të mëhersh	45	25	3	2	1	**76**	43	24	7	0	1	**75**	46	30	15	2	0	**93**	134	79	25	4	2	**244**
Orët e humbura	7080	4144	488	272	176	**12160**	6128	3600	1120	0	80	**10928**	7072	5152	2360	320	0	**14904**	20280	12896	3968	592	256	**37992**
Euro (€)	12745	7426.66	883.6	547.12	196.2	**21798.44**	11155.4	6329.2	2045.07	0	98.2	**19627.82**	12871.0	9120.0	4025.9	694.26	0	**26711.2**	36771.22	22875.86	6954.56	1241.38	294.4	**68137.42**

Shpenz për shkak të aksid. për **2009**	Punëtor	(€)Euro	orë (h)	% (€)	€/punt	(h)/1punto
KEK	**7788**	268,993.07	147,592	100.00	34.54	18.95
DPQ	3379	148,361.52	80,384	43.39	43.91	23.79
DGJE	1609	87,756.08	49,728	20.66	54.54	30.91
DRR	2299	26,320.15	14,288	29.52	11.45	6.21
DFUR	103	5,170.07	2,328	1.32	50.19	22.60
TJERA	398	1,385.25	864	5.11	3.48	2.17

	Totali: Janar-Dhjetor 2009					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	100	81	40	18	6	**245**
Nr. lënd. që krij. shpenz.	72	63	30	12	3	**180**
Orët e humbura	6,360	5,704	2,128	936	168	**15,296**
Euro (€)	11,280.6	9,988.7	4,030.35	2,320	336.3	**27,955.44**
Shfryt. e FL të mëhersh	480	289	79	9	5	**862**
Orët e humbura	74,024	44,024	12,160	1,392	696	**132,296**
Euro (€)	137,081	77,767.4	22,289.80	2,851	1,049.0	**241,037.63**

ANALIZA E SHPENZIMEVE TË VITIT 2010 PËR LËNDIME NË KEK DHE DIVIZIONE

	J A N A R -2010						SHKURT -2010						MARS -2010						Janar-Mars:2010					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	10	4	1	1	0	**16**	14	4	2	9	0	**29**	6	5	4	3	0	**18**	30	13	7	13	0	**63**
Nr. lënd. që krij. shpenz.	7	4	1	0	0	**12**	11	3	2	5	0	**21**	4	5	3	1	0	**13**	22	12	6	6	0	**46**
Orët e humbura	768	296	8	0	0	**1072**	1136	368	96	448	0	**2048**	384	400	320	160	0	**1264**	2288	1064	424	608	0	**4384**
Euro (€)	1310.45	536.59	16.09	0	0	**1863.13**	2026.18	621.28	187.59	896.92	0.00	**3731.97**	670.1	733.33	585.82	367.82	0	**2357.03**	4006.69	1891.20	789.50	1264.74	0.00	**7952.13**
Shfryt. e FL të mëhersh	38	25	0	0	0	**63**	35	26	10	2	0	**73**	34	21	9	4	0	**68**	107	72	19	6	0	**204**
Orët e humbura	4864	3408	0	0	0	**8272**	5080	3376	1296	224	0	**9976**	5664	3376	1344	544	0	**10928**	15608	10160	2640	768	0	**29176**
Euro (€)	8818.66	5977.7	0.0	0	0	**14796.32**	9280.75	5990.42	2363.38	494.26	0.00	**18128.81**	10449.0	6087.6	2487.9	1163.21	0	**20187.67**	28548.45	18055.63	4851.25	1657.47	0.00	**53112.80**

	Prill -2010						MAJ -2010						QERSHOR -2010						Prill-Qershor:2010					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	7	6	3	5	0	**21**	9	5	1	4	0	**19**	9	13	2	3	0	**27**	25	24	6	12	0	**67**
Nr. lënd. që krij. shpenz.	7	4	2	4	0	**17**	9	5	1	2	0	**17**	8	13	2	2	0	**25**	24	22	5	8	0	**59**
Orët e humbura	696	312	208	192	0	**1408**	624	488	40	136	0	**1288**	832	1392	128	160	0	**2512**	2152	2192	376	488	0	**5208**
Euro (€)	1284.1	603.8	389.0	386.2	0.0	**2663.04**	1071.55	813.21	126.9	273.57	0	2285.23	1533.6	2567.8	235.86	344.83	0	**4682.15**	3889.28	3984.81	751.73	1004.6	0	**9630.42**
Shfryt. e FL të mëhersh	28	19	5	2	0	**54**	29	14	6	3	1	**53**	27	14	6	5	0	**52**	84	47	17	10	1	**159**
Orët e humbura	3928	2688	656	296	0	**7568**	4112	1688	912	440	80	**7232**	4433	2416	1008	696	0	**8553**	12473	6792	2576	1432	80	**23353**
Euro (€)	6904.3	4783.6	1170.3	680.5	0	**13538.66**	7602.02	2994.89	1659.75	324.14	234.94	12815.74	8247.8	4214.6	2152.0	1450.57	0	**16064.96**	22754.1	11993.11	4982.04	2455.17	234.94	**42419.36**

	KORRIK -2010						GUSHT -2010						SHTATOR -2010						Korrik-Shtator:2010					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	7	7	1	4	0	**19**	10	3	1	3	1	**18**	12	4	0	1	0	**17**	29	14	2	8	1	**54**
Nr. lënd. që krij. shpenz.	7	6	0	1	0	**14**	9	2	0	3	1	**15**	10	3	0	1	0	**14**	26	11	0	5	1	**43**
Orët e humbura	488	448	0	72	0	**1008**	960	120	0	208	104	**1392**	936	224	0	69	0	**1229**	2384	792	0	349	104	**3629**
Euro (€)	879.3	819.7	0.00	144.83	0	**1843.79**	1722.16	211.72	0	464.36	354.44	**2752.68**	1584.66	372.05	0	193.1	0	**2149.81**	4186.07	1403.48	0.00	802.29	354.44	**6746.28**
Shfryt. e FL të mëhersh	31	23	8	4	0	**66**	34	21	7	3	0	**65**	39	14	18	6	1	**78**	104	58	33	13	1	**209**
Orët e humbura	5328	3544	1400	704	0	**10976**	5448	3384	1232	392	0	**10456**	5608	2032	1661	880	168	**10349**	16384	8960	4293	1976	168	**31781**
Euro (€)	9916.8	6467.6	2876.77	1466.56	0	20727.79	10427.0	5791.97	2293.04	799.99	0	**19312.04**	10651.6	3785.6	2952.4	1908.05	572.55	**19870.26**	30995.46	16045.24	8122.24	4174.6	572.55	**59910.09**

	TETOR -2010						NËNTOR -2010						DHJETOR -2010						Tetor-Dhjetor:2010					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	3	6	1	3	0	**13**	13	8	3	1	1	**26**	4	5	3	3	1	**16**	20	19	7	7	2	**55**
Nr. lënd. që krij. shpenz.	2	5	0	2	0	**9**	10	5	1	1	1	**18**	4	4	2	1	0	**11**	16	14	3	4	1	**38**
Orët e humbura	120	440	0	192	0	**752**	768	632	104	136	152	**1792**	352	464	104	48	0	**968**	1240	1536	208	376	152	**3512**
Euro (€)	244.1	1010.66	0	386.21	0	**1640.92**	1363.31	1265.42	185.29	273.56	249	**3336.58**	743.16	804.42	196.32	96.55	0	**1840.45**	2350.52	3080.5	381.61	756.32	249	**6817.95**
Shfryt. e FL të mëhersh	37	18	3	3	1	**62**	30	22	1	5	1	**59**	36	22	2	5	2	**67**	103	62	6	13	4	**188**
Orët e humbura	5520	2824	296	504	186	**9330**	4792	3352	168	776	168	**9256**	5784	3248	352	734	296	**10414**	16096	9424	816	2014	650	**29000**
Euro (€)	10202	5096.79	573.4	1013.82	572.55	**17458.69**	8721.0	6481.42	299.31	1590.8	572.55	**17665.07**	10388.5	6119.5	627.3	1577.18	797.06	**19509.60**	29311.59	17697.75	1500.06	4181.8	1942.16	**54633.36**

Shpenz për shkak të aksid. për **2010**	Punëtor	(€)Euro	orë (h)	% (€)	€/punt	(h)/1punt
KEK	**7749**	241,222.4	130,043	100.00	31.13	16.78
DPQ	**3329**	126,042.2	68,625	42.96	37.86	20.61
DGJE	**1576**	74,151.72	40,920	20.34	47.05	25.96
DRR	**1104**	21,378.43	11,333	14.25	19.36	10.27
DFUR	**1310**	16,296.99	8,011	16.91	12.44	6.12
TJERA	**430**	3,353.09	1,154	5.55	7.80	2.68

	Totali: Janar-Dhjetor 2010					
	DPQ	DGJE	DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	104	70	22	40	3	**239**
Nr. lënd. që krij. shpenz.	88	59	14	23	2	**186**
Orët e humbura	8,064	5,584	1,008	1,821	256	**16,733**
Euro (€)	14,432.56	10,359.99	1,922.84	3,828.0	603.4	**31,146.78**
Shfryt. e FL të mëhersh	398	239	75	42	6	**760**
Orët e humbura	60,561	35,336	10,325	6,190	898	**113,310**
Euro (€)	111,609.60	63,791.73	19,455.59	12,469.0	2,749.7	**210,075.61**

ANALIZA E SHPENZIMEVE TË VITIT 2011 PËR LËNDIME NË KEK DHE DIVIZIONE

	Janar 2011							SHKURT -2011							MARS -2011							Janar-Mars:2011						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	12	2		1	1	0	**16**	5	3		0	8	0	**16**	4	3		3	6	0	**16**	21	8	0	4	15	0	**48**
Nr. lënd. që krij. shpenz.	7	0		0	0	0	**7**	5	0		0	6	0	**11**	2	2		2	1	0	**7**	14	2	0	2	7	0	**25**
Orët e humbura	472	0		0	0	0	**472**	392	0		0	472	0	**864**	152	160		176	80	0	**568**	1016	160	0	176	552	0	**1904**
Euro (€)	823.45	0		0	0	0	**823.45**	635.59	0.00		0.00	965.53	0.00	**1601.12**	302.3	352.03		364.14	183.91	0	**1202.33**	1761.29	352.03	0	364.14	1149.44	0.00	**3626.9**
Shfryt. e FL të mëhersh	41	22		3	2	2	**70**	33	15		4	1	2	**55**	20	11		3	3	0	**37**	94	48	0	10	6	4	**162**
Orët e humbura	2448	1680		192	176	56	**4552**	2158	768		288	32	48	**3294**	1000	656		152	216	0	**2024**	5606	3104	0	632	424	104	**9870**
Euro (€)	4316.28	3024.6		347.6	354.03	175.77	**8218.28**	3726.08	1399.55		544.78	64.37	121.20	**5855.98**	2055.7	1319.0		336.2	521.11	0	**4232.05**	10098.07	5743.16	0	1228.60	939.51	296.97	**18306.31**

	Prill -2011							MAJ -2011							QERSHOR -2011							Prill-Qershor:2011						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	5	2		1	4	0	**12**	5	4		0	3	2	**14**	1	4		0	3	0	**8**	11	10		1	10	2	**34**
Nr. lënd. që krij. shpenz.	0	0		0	0	0	**0**	0	0		0	0	0	**0**	1	1		0	1	0	**3**	1	1		0	1	0	**3**
Orët e humbura	0	0		0	0	0	**0**	0	0		0	0	0	**0**	136	80		0	128	0	**344**	136	80		0	128	0	**344**
Euro (€)	0.0	0.0		0.0	0.0	0.0	**0.00**	0	0		0	0	0	0.00	254.8	158.0		0	294.25	0	**707.03**	254.8	157.98		0	294.25	0	**707.03**
Shfryt. e FL të mëhersh	20	16		5	1	0	**42**	21	15		1	1	0	**38**	58	31		4	3	1	**97**	99	62		10	5	1	**177**
Orët e humbura	1120	992		352	40	0	**2504**	1496	648		128	40	0	**2312**	4268	2104		352	192	88	**7004**	6884	3744		832	272	88	**11820**
Euro (€)	2219.4	2033.4		797.8	103.5	0	**5154.08**	3029.85	1546.29		264.83	91.95	0	4932.92	9178.2	4751.5		775.4	441.37	169.93	**15316.40**	14427.48	8331.21		1838.01	636.77	169.93	**25403.40**

	KORRIK -2011							GUSHT -2011							SHTATOR -2011							Korrik-Shtator:2011						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	1	2		3	4	0	**10**	4	3		1	1	1	**10**	8	2		3	3	0	**16**	13	7		7	8	1	**36**
Nr. lënd. që krij. shpenz.	0	1		0	0	0	**1**	1	0		0	0	0	**1**	1	2		0	2	0	**5**	2	3		0	2	0	**7**
Orët e humbura	0	16		0	0	0	**16**	88	0		0	0	0	**88**	144	160		0	176	0	**480**	232	176		0	176	0	**584**
Euro (€)	0.0	30.9		0.00	0.00	0	**30.90**	174.99	0		0	0	0	**174.99**	337.66	299.77		0	541.84	0	**1179.27**	512.65	330.67		0.00	541.84	0	**1385.16**
Shfryt. e FL të mëhersh	73	42		2	0	0	**117**	75	32		3	3	0	**113**	67	39		2	3	0	**111**	215	113		7	6	0	**341**
Orët e humbura	5546	2846		256	0	0	**8648**	5746	2284		320	224	0	**8574**	5920	2416		256	216	0	**8808**	17212	7546		832	440	0	**26030**
Euro (€)	11473.6	6002.7		529.66	0.00	0	**18005.91**	12073.6	4911.46		669.11	505.75	0	**18159.92**	12540.6	5506.8		529.7	530.57	0	**19107.59**	36087.8	16420.87		1728.43	1036.32	0	**55273.42**

	TETOR -2011							NËNTOR -2011							DHJETOR -2011							Tetor-Dhjetor:2011						
	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	8	3		0	0	0	**11**	4	1		1	6	0	**12**	7	0		1	5	0	**13**	19	4		2	11	0	**36**
Nr. lënd. që krij. shpenz.	0	0		0	0	0	**0**	1	1		0	3	0	**5**	3	0		0	1	0	**4**	4	1		0	4	0	**9**
Orët e humbura	0	0		0	0	0	**0**	56	48		0	232	0	**336**	320	0		0	56	0	**376**	376	48		0	288	0	**712**
Euro (€)	0.0	0		0	0	0	**0.00**	114.9	98.48		0.00	517.88	0	**731.26**	600.92	0		0	128.74	0	**729.66**	715.82	98.48		0	646.62	0	**1460.92**
Shfryt. e FL të mëhersh	54	29		4	1	0	**88**	71	36		2	0	0	**109**	113	40		2	1	0	**156**	238	105		8	2	0	**353**
Orët e humbura	3918	2008		304	40	0	**6270**	5376	1984		224	0	0	**7584**	8314	3264		224	16	0	**11818**	17608	7256		752	56	0	**25672**
Euro (€)	8614	4469.1		640.0	82.76	0	**13806.15**	11494.8	4430.42		506.49	0	0	**16431.71**	17472.8	7294.5		524.0	36.78	0	**25328.11**	37581.89	16194.05		1670.49	119.54	0	**55565.97**

Shpenz për shkak të aksid. për **2011**		Punëtor	(€)Euro	orë (h)	% (€)	€/punt	(h)/1punt
KEK		**7749**	161,729.11	76,936	100.00	20.87	9.93
DPQ		**3329**	101,439.80	49,070	42.96	30.47	14.74
DGJE		**1576**	47,628.45	22,114	20.34	30.22	14.03
DRR		**1104**	6,829.67	3,224	14.25	6.19	2.92
DFUR		**1310**	5,364.29	2,336	16.91	4.09	1.78
TJERA		**430**	466.90	192	5.55	1.09	0.45

	Totali: Janar-Dhjetor 2011					
	DPQ	DGJE		DRR	DFUR	TJERA	KEK
Nr. Lëndimeve	64	29		14	44	3	**154**
Nr. lënd. që krij. shpenz.	21	7		2	14	-	**44**
Orët e humbura	1,760	464		176	1,144	-	**3,544**
Euro (€)	3,244.56	939.16		364.14	2,632.2	-	**7,180.01**
Shfryt. e FL të mëhersh	646	328		35	19	5	**1,033**
Orët e humbura	47,310	21,650		3,048	1,192	192	**73,392**
Euro (€)	98,195.24	46,689.29		6,465.53	2,732.1	466.9	**154,549.10**

Rastet fatale të punëtorëve si pasoj e lëndimit në punë në KEK pas vitit 1999 - luftës

	Subjekti	Emri dhe mbiemri	Nr.pun.	Datëlindja	Dt.Lënd.	Data e Vdekjes
1	GJILAN	Qazim Frangu	0	1954	0	22.08.1999
2	ELEKTROBARTJE	Ruzhdi Berisha	0	25.05.1953	0	10.07.1999
3	ELEKTROBARTJE	Besnik Sinani	7932	15.05.1967	0	05.07.2000
4	DPQ,BARDH	Lulzim Ibrahimi	50105	17.02.1980	0	02.10.2000
5	PRIZREN	Myzhdat Jyrysh	4344	27.10.1961	0	16.12.2000
6	PRIZREN	Menduh Asllani	0	24.05.1960	0	10.02.2000
7	DGJE,TC "Kosova -B "	Hamdi Ferat Grajqevci	16008	15.02.1967	07.02.2000	2000
8	DISTRIBUCIO,Mitrovica	Nazmi.O.Osmani	10230	08.02.1953	0	04.07.2000
9	DPQ,BARDHI	Dibran Krasniqi	592	13.08.1947	0	24.04.2001
10	DPQ,MS MIRASH	Izet(Mirena)Kajtazi	15080	13.02.1943	0	18.01.2001
11	DPQ,MS MIRASH	Nazmi Hashani	17839	15.02.1952	0	25.02.2001
12	DGJE,TC "Kosova -A "	Vehbi Krasniqi	2252	16.01.1952	0	21.03.2001
13	GJILAN	Remzush Fazliu	0	15.10.1964	0	30.03.2001
14	DGJE,TC "Kosova -B "	Vehbi Salih Duraku	16007	05.06.1957	..05.2001	2001
15	ELEKTROBARTJE	Bashkim Dedinca	7931	03.05.1977	0	25.05.2001
16	PEJË	Nikoll Ndrecaj	8776	29.03.1955	0	04.04.2001
17	DISTRIB,Mitrovicë	Hetem Shabani	2251	17.07.1952	0	26.06.2001
18	DISTRIBUCIONI	Ramadan Zeqiri	10387	17.07.1958	0	12.03.2001
19	DISTRIBUCIONI MITROVICI	Esat Isa Pula	13.05	15.05.1948	23.12.2001	07.01.2001
20	DREJTORIA E	Marian Ndrecaj	16019	14.09.1955	..6.2002	2001
21	PRIZREN	Manush Zeqiri	0	14.05.1966	06.04.2002	02.07.2002
22	PEJË	Fatos Demalia	0	0	25.06.2002	0
23	PRISHTINË	Idriz Rexha	0	1946	21.09.2002	0
24	MITROVICË	Osman Rexhepi Qoroviq	303	02.03.1943	06.07.2002	06.07.2002
25	DPQ,BARDHI	Dibran Berisha	16022	16.04.1943	..12.2002	2002
26	MBROJTJA DHE Siguria	Nazif Bekolli	16028	05.09.1973	…01.2003	2003
27	PRISHTINË	Xhafer Konushefci	3385	28.04.1950	25.12.2003	08.01.2004
28	DGJE,TC "Kosova -A "	Mustafë Ternava	1116	02.09.1950	18.11.2004	18.11.2004
29	DPQ Mirash	Ekrem Ibrahimi	1973	30.08.1955	19.07.2004	19.07.2004
30	DPQ Mirash	Zymer Preniqi	309	19.12.1942	19.07.2004	19.07.2004
31	TEKNIK	Fatmir Shaqir Grajqevci	9188	15.11.1965	24.03.2005	08.05.2005
32	Ferizaj	Bilall Gashi	3515	20.12.1959	14.07.2005	14.07.2005
33	DPQ-Mirash	Abaz Hasan Mulaku	4776	10.01.1963	12.07.2006	12.07.2006
34	Dfur- Ferizaj	Perparim Berisha	10386	28.12.1969	01.09.2006	01.09.2006
35	DPQ-DMN	Fehmi Morina	7542	20.07.1958	02.10.2007	02.10.2007
36	DGJE,TC-A	Abdyl O Bajgora				03.04.2008
37	DGJE,TC-A	Bahri B Salihu				27.09.2008
38	Dfur- Gjakovë	Zef Pren Gjini				26.08.2009
39	DRr,Pejë	Maxhun Nezir Malaj				02.09.2009
40	DRr,Pejë	Avni Ibrahim Istrefi				31.03.2010

06.07.2011

Zyra e SI&MKZ e KEK-ut

Republika e Kosovës
Republic of Kosova
Republika Kosova

Komuna e Obiliqit
Municipality of Obilic
Opstina Obilic

Zyra e Informimit
25.04.2008

Për : Komisionin Parlamentar për Bujqësi, Pylltari, Zhvillim Rural dhe çështje të ambientit , zn Selvie Halimi, z. Berat Luzha dhe zn.Elheme Hetemi

Nga: Safete Graiçevci, udh. e Zyrës së Informimit
Nazif Shala, udh. i Sektorit për Ambient dhe Ekologji

Raport mbi të dhënat e ndikimit të KEK-ut në mjedis, në komunën e Kastriotit

Të nderuar.

Bazuar në kërkesën tuaj gjatë vizitës në komunës së Kastriotit më 22 prill, "Dita e Planetit të Tokës" dhe bazuar në shqetësimet të cilat para jush paraqiti kryetari i komunës së Kastriotit, z. Rexhep Kelani, për çështjen e ambientit dhe marrëdhënieve KOMUNË -KEK, po ju dërgoj këtë raport me të dhënat e gjendjes momentale të ndikimit të KEK-ut në mjedis, të cilat janë siguruar nga Sektori i Ambientit dhe Ekologjisë i cili vepron në komunën tonë.

Njëkohësisht , ju i dëgjuat shqetësimet e kryetarit , e sidomos faktin se asnjëherë nuk u mundësua që në tryezë të ulen së bashku, MMPH, MEM, KPMM, KEK dhe institucioni i komunës së Kastriotit për të diskutuar bashkërisht për problemet që na preokupojnë.

Një kërkesë e tillë i është drejtuar të gjitha këtyre institucioneve, përfshirë këtu edhe presidentin e Republikës së Kosovës, z. Fatmir Sejdiu, Përf. Të PSSP-së Joakim Rychker dhe Kryeministrit të Kosovës, z. Hashim Thaçi.

Duke vlerësuar lart angazhimin tuaj për Ditën e Tokës, si dhe interesimin tuaj për të ndihmuar në këtë sferë, shpresojmë se do të jepni kontributin tuaj prej deputeti të Parlamentit të Kosovës që kjo çështje të gjejë zgjidhje të drejtë për të gjitha palët.

Me respekt!

P.S. të bashkëngjitur e keni edhe raportin.

Ftesë e anëtarëve të grupit Profesionistë

Duke u bazuar në vendimin e datës 17.07.2008, të Ministrisë së Mjedisit dhe Planifikimit Hapësinor lidhur me formimin e Grupit Profesional dhe detyrat e përcaktuara me këtë vendim, për takimin e radhës, caktoj rendin e ditës dhe detyrat e veçanta për çdo anëtarë të grupit :

Pika e 1.- Mbledhja e të dhënave për shkaqet e rreziqeve të vendbanimeve (fshati Dardhishte dhe fshati Grabofc), anëtarët e grupit të profesionistëve kanë këto detyra:

a. Bexhet Shala, ti siguroj të dhënat e nevojshme nga Subjektet e KEK-ut, për :
   i. Projektin e fundit të hartuar për deponimin e hirit të TC Kosova "A" në lokacionin e fshatit Dardhishte;
   ii. Projektin e palosjes së djerrinë nga Sektori Lindor i M.S. Mirash nën deponin e hirit të TC Kosova "A";
   iii. Projektin e stabilitetit të Deponisë së hirit në Lokacionin e fshatit Dardhishte;
   iv. Projektin e kthimit të hirit nga deponia e Dardhishtës në zbrazësinë e MS Mirash;
   v. Harta e incizimit të fundit gjeodezik në lokacionin e Dardhishtës;
   vi. Shpronësimin (eksproprijimin) e pasurisë (tokave), nga ato private në prona të KEK-ut (harta e shpronësimit në rrethinën e këtyre dy vendbanimeve);
   vii. Punimet e vjetra nëntokësore (harta e punimeve të vjetra nëntokësore në lokacionin e fshatit Dardhishte);
   viii. Evidencën e KEK-ut lidhur me hedhurinat (fenolet) në zbrastësirat e punimeve të vjetra nëntokësore në lokacionin e fshatit Dardhishte;
   ix. Projektin e fundit të hartuar për zhvendosjen e shtratit të lumit Sitnica, lokacioni fshatit Dardhishte;
   x. Projektin e hartuar për mihjen e re sipërfaqësore të Sitnicës, lokacioni fshatit Dardhishte;
   xi. Të dhënat tjera për ndotjen e ajrit, tokës, ujit dhe zhurmës, për lokacionin e fshatit Dardhishte dhe fshatit Grabofc.
   xii. Të dhënat tjera nga Instituti i Medicinës së Punës lidhur me gjallesat (njerëzit, kafshët, shpezët etj.), për te dy vendbanimet;
   xiii. Të dhënat tjera në përputhje me vendimin.

b. Nazif Shala dhe Safete Grajqefci, ti siguroj të dhënat e nevojshme nga evidenca e KK të Kastriotit, për :
   i. Hartën kadastrale të Kastriotit – Zona e fshatit Dardhishte;
   ii. Rreziqet eventuale të ndodhura në lokacionin e fshatit Dardhishte dhe evidenca e KK për pasojat eventuale nga këto rreziqe (dëshmitë).
   iii. Strategjinë e KK të Kastriotit për tu marrë me këto probleme-rreziqe;
   iv. Planin hapësinor të KK të Kastriotit nëse duhet të zhvendoset një pjesë e fshatit Dardhishte (projekti për lokacionin e paraparë për këtë zhvendosje);
   v. Evidencën e Shpronësimit (eksproprijimin) të pasurisë (tokave), nga ato private në prona të KEK-ut (harta e shpronësimit në rrethinën e fshatit Dardhishte);
   vi. Të dhënat tjera për ndotjen e ajrit, tokës, ujit dhe zhurmës, për lokacionin e fshatit Dardhishte;
   vii. Të dhënat tjera lidhur me gjallesat (njerëzit, kafshët, shpezët etj.), për lokacionin e fshatit Dardhishte;
   viii. Të dhënat tjera në përputhje me vendimin.

c. Hasime Qyqalla, ti siguroj të dhënat e nevojshme nga KK Fushë Kosovës, për :
   i. Hartën kadastrale të Fushë Kosovës – Zona e fshatit Grabofc;
   ii. Rreziqet eventuale të ndodhura në lokacionin e fshatit Grabofc dhe evidenca e KK për pasojat eventuale nga këto rreziqe (dëshmitë).
   iii. Strategjinë e KK të F. Kosovës për tu marrë me këto probleme-rreziqe;
   iv. Planin hapësinor të KK të F. Kosovës nëse duhet të zhvendoset një pjesë e Fshatit Grabofc (projekti për lokacionin e paraparë për këtë zhvendosje);

Ministri Jagcilar njoftohet me hallet e banorëve të fshatit Dardhishtë, të Kastriotit

vizituan sot banorët e fshatit "Dardhishtë", me ç'rast u njoftua për së afërmi me gjendjen faktike të asaj zone e cila, për shkak të mihjes sipërfaqësore në afërsi të fshatit, po rrezikohet vazhdimisht nga shembja e dheut. Në këtë zonë ndodhen shtatëdhjetë shtëpi ndërsa për dhjetë prej tyre, KK i Kastriotit me ndihmën e Agjencisë Evropiane, ka bërë zgjidhje duke siguruar troje ndërtimi dhe duke ua ndërtuar shtëpitë në Shkabaj.
Banorët e këtij fshati po ashtu kishin ankesa të shumta edhe për ndotjen e madhe që ua shkakton deponia e hirit.

Si raste emergjente tani janë edhe 60 shtëpi, të cilat janë të rrezikuara nga shembja e kohëpaskohshme e dheut.

Ministr Jagcilar iu premtoi këtyre banorëve se shumë shpejt, së bashku me Ministrinë e Energjisë dhe Minierave dhe KK të Kastriotit, do ta shqyrtojnë këtë problem dhe do të hartojnë një projekt të qëndrueshëm për të bërë një zgjidhje sa më të mirë për të gjithë këta banorë të asaj zone me rrezikshmëri, njofton Zyra për informim pranë MPH-së.
[s.b & RTK staff]

REPUBLIKA E KOSOVËS/REPUBLIKA KOSOVA/ REPUBLIC OF KOSOVO

QEVERIA E KOSOVËS / VLADA KOSOVA /GOVERNMENT OF KOSOVA

MINISTRIA E ENERGJISË DHE MINIERAVE/ MINISTARSTVO ENERGETIKE I RUDARSTVA/ MINSTRY OF ENERGY AND MINING

PËR/ZA/TO:		Znj. Justina PULA, Ministre e MEM			
CC:		Bedri DRAGUSHA,			
PËRMES/PREKO/THROUGH:					
NGA/OD/FROM:		Florin HOXH U.d. Drejtor Instutiti (IHTLM), MEM, Hysni KOMONI Inspektor, MEM			
TEMA/SUBJEKAT/SUBJECT:		RAPORT NGA VIZITA NË FSHATIN DARDHISHTË			
Nr. i zyrës: Br. kancelarije: Room No.:		Lokacioni: Kucni: Extension:		Data: Datum: Date:	25.03.08

RAPORT NGA VIZITA NË FSHATIN DARDHISHTË

Me kërkesë të Ministres, vizituam fshatin Dardhishtë për të verifikuar gjendjen faktike mbi rrëshqitjen e deponisë së hirit, djerrinës dhe ndikimin e ndotjes së ambientit në këtë fshatë.

Vizita u realizua në prezencë të përfaqësuesve të fshatit dhe fshatarëve të fshatit Dardhishtë të cilët kishin drejtuar një ankesë për disa Institucione të Qeverisë së Kosovës, nder tjera edhe Ministrisë së Energjisë dhe Minierave.

Në bazë të vizitës së realizuar raportojmë këtë:

Fshati Dardhishtë shtrihet në mes të deponisë së hirit në lindje, TC Kosova A në veri, lumit Sitnica dhe deponim së djerrinës dhe deponisë së mbeturinave urbane në perëndim dhe Fushë Kosovës në jug.

Në pjesën ku ndodhet deponia e hirit vërehen rrëshqitje të dukshme apo shkëputje të hirit si dhe rrëshqitje të trollit deri në afërsi të shtëpive të para të lagjes (të quajtur lagja e hirit). Largësia nga deponia e hirit deri tek shtëpitë e para është afërsisht 100 m. Pjesa që ndan shtëpitë e para nga hiri është ish miniera nëntokësore e Dardhishtës ku në këtë sipërfaqe vërehen shembje të dukshme të dheut si pasoj e korridoreve nëntokësore të kësaj miniere ndërsa në sipërfaqe janë formuar gropa të mëdha të cilat tani janë të mbushura pjesërisht me ujë dhe janë rrezik permanent për fëmijët e fshatit dhe banorët në përgjithësi. Banoret e këtij fshati druajnë nga shembje të këtilla të papritura. Po ashtu në fushën e ish minierës nëntokësore gjithnjë sipas deklaratave të fshatarëve janë hedhur edhe sasi të mëdha të fenolëve të cilat kanë shkaktuar ndotjen e ambientit e të cilat edhe sot shkaktojnë ndotje si vërehet edhe nga aroma e pa këndshme e cila lirohet nga kjo gropë.

Në bazë të deklaratave të fshatarëve ka pas raste kur në këto gropa kanë pësuar fëmijët e këtij fshati, po ashtu në bazë të deklaratave të tyre ka pas raste kur fëmijët e kanë humbur vetëdijen gjithmonë sipas tyre për shkak të lirimit të gazit nga ato gropa. Të njëjtat që i cekem më lartë qartë mund të shihen nga fotot të cilat janë të bashkangjitura raportit.
Nga ana tjetër fshati po ashtu është i rrezikuar për shkak të ndryshimit të rrjedhës së lumit Sitnica, ku shtëpia e parë nuk është më larg se 50 m nga rrjedha e re. Po ashtu ky fshat është i ndotur edhe nga gazrat që lirohen nga vetëndezja e qymyrit dhe ndezja e mbeturinave në deponin e mbetjeve urbane.
Fshataret ankohen edhe nga hirit fluturues i TC Kosova A i cili lirohet në mungesë të filtrave dhe i cili gjatë erërave të forta e mbulon fshatin me mjegull të krijuar nga hiri.

Në bazë të gjithë kësaj dhe gjendjes faktike mund të themi se ka rrëshqitje të vazhdueshme të hirit dhe djerrinës të cilat në çdo kohë paraqesin rrezik për shtëpitë më të afërta të këtij fshati, ku qartë mund të shihet nga fotot shkëputja e cila kishte ndodhë gjatë këtyre ditëve, ndërsa sa i përket ndotjes së ambientit kjo gjë është e njohur për shkak të pozitës që ka fshati si dhe nga studimet e ndryshme që janë bërë nga Institucione të ndryshme.

Me respekt,

Prishtinë, Mars 2008

-TC "Kosova-A"

-Emetimet e SO_2, NO_x,CO_2, CO_2 ,bloza, pluhuri,dhe sedimenteve te metaleve te rënda në pluhur siç janë Zn,Cu,Cd,Ni, Cr, He, Mn etj

-Ujërat e ndotura teknologjike-derdhen në lumin Sitnicë

-Mihjet sipërfaqësore të linjitit

-Emetimet e pluhurit

-Emetimet e zhurmes

-Peizazhi dhe degradimi i tokes

-Shkarkimi i ujërave (karburante dhe vajra të përdorura)në lumë-Sitnicë

-Emisionet në ajër nga zjarret në mihjet sipërfaqësore të linjitit- vetëndezja e thëngjillit

Duke u bazuar në këto shënime dhe të dhëna, Komuna e Kastriotit , gjendjen mjedisore në fshatin Dardhishtë e vlerëson si gjendje të rëndë dhe shumë emergjente dhe nga ju kërkojmë që të gjendet një zgjidhje sa më e shpejtë. Ne mendojmë se zgjidhja e vetme është zhvendosja e tërësishme e fshatit.. Një gjë të tillë komuna nuk ka mundësi buxhetore të bëjë , prandaj në vazhdimësi përballet me pamundësinë e zgjidhjes së këtyre problemeve, për të cilat shkaktare është veprimtaria e prodhimtarisë së KEK-ut.

Me respekt!

Republika e Kosovës • Republika Kosova • Republic of Kosova
Komisioni i Pavarur për Miniera dhe Minerale
Nezavisna Komisija za Rudnike i Minerale
Independent Commission for Mines and Minerals

Prishtina, 16.04.2008

Korporata Energjetike e Kosovës Sh.a.
Drejtorit, z. Remzi Shahini,

Lënda: Raporti i komisionit profesional per shqyrtimin e ankesës se fshatit Dardhishte per aktivitetet e KEK-ut

I nderuari z. Shahini,

Fshati Dardhishte ka bere nje ankese ne lidhje me aktivitetet e KEK-ut ne zhvendosjen e lumit Sitnica, deponin e Hirit, si dhe hapjen e hinkave nga aktivitetet e mëhershme te KEK-ut.

KPMM ka formuar nje komision profesional per te shqyrtuar këto shqetësime te banoreve te fshatit Dardhishte.

Nga raporti te cilin e gjeni te bashkangjitur shihet se gjendja ne këto zona eshte shume alarmante dhe kërkohet nga KEK-u reagim i menjëhershëm ne sigurimin e zonave te rrezikuara si dhe ne sanimin e gjendjes se krijuar.

Prandaj ju lutem qe menjëherë te filloni me marrjen e masave per te evituar vërejtjet qe janë cekur ne raportin e bashkangjitur, si dhe ta njoftoni KPMM-ne lidhje me masat e ndermarrura.

Nëse KEK-u nuk ndërmerr masa te menjëhershme per sanimin e gjendjes se krijuar atëherë KPMM do te detyrohet qe te beje ndalimin e punës ne minierat e KEK-ut si dhe vazhdimin e deponimit te hirit ne deponit ekzistuese.

Kopje:

Z. Mahir Jakxhillar, Ministër, MMPH
Znj. Justina Shiroka-Pula, Ministër, MEM
Z. Paul Acda, Udhëheqës i Shtyllës se IV, UNMIK,
Z. Rexhep Kelani, Kryetar, Komuna e Kastriotit,
Z. Ilir Salihu, zv. Drejtor, AKM
Bashkësia e Fshatit Dardhishtë
Z. Izet Shehu, KEK
Muhedin Haxhiu, KEK

ICMM,KPMM,NKRM
Nr.Prot. 606
Data: 16.04.08 Ora:
Për:
Postë ☑ Fax ☐ e-mail ☐

Me respekt,

Azem Rexhaj
Drejtor i Minierave dhe Mineraleve
Komisioni i Pavarur për Miniera dhe Minerale

Rr. Rrustem Statovci 29
Prishtinë, Kosovë
Tel: +381 (38) 240 252
Fax: +381 (38) 245 844
E-mail: ICMM@kosovo-mining.org
Web: www.kosovo-mining.org

Kuvendi i Kosovës
Skupština Kosova
Assembly of Kosova

European Union

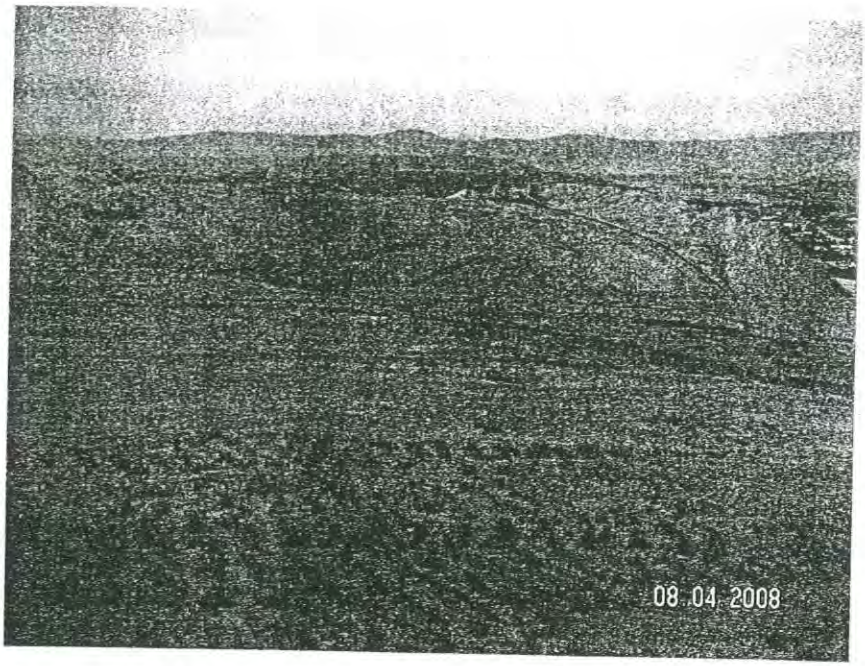


Foto.1. Pamja e deponitë së Hirit të TC- A, sektori perëndimor

Foto.2. Pamja e deponitë së Hirit të TC- A, sektori lindor

II. 2. Hinkat(spostimet) e krijuara në hapësirat mbi terrenin e ish minierës së Dardhishtës

Shfrytëzimet e mëhershëm të ish minierës së Dardhishtës kan shkaktuar dhe po shkaktojn spostime (deformime te terenit sipërfaqësor) të cilat paraqesin rrezik potencial për jetën e njerëzve, shtazëve dhe pasurisë.
Për hinkën e fundit janë marrë masa nga KEK-u dhe janë vendosur rrethojat metalike si dhe shenjat e paralajmërimit dhe të rrezikut.

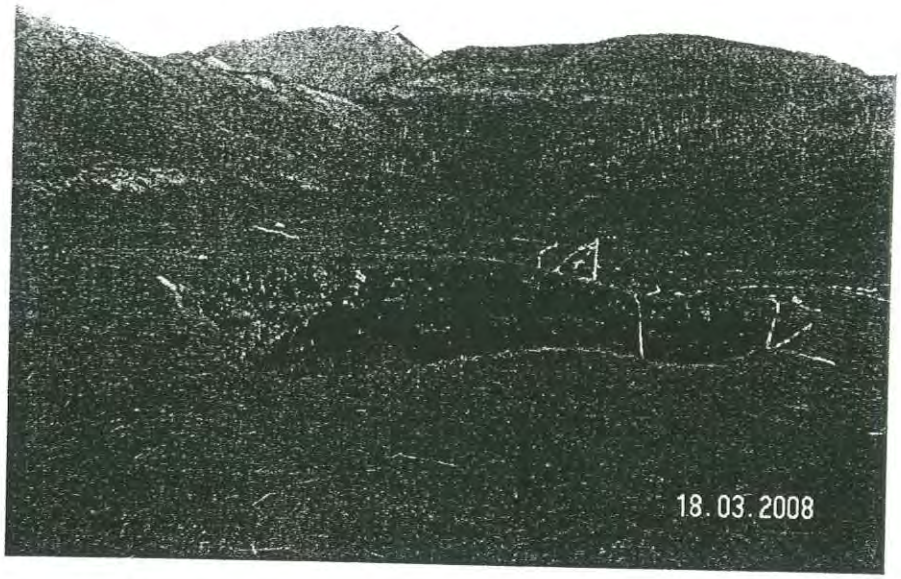


Foto. 3. pamja e spostimit të terrenit – hapja e hinkës

Foto. 4. Pamja e preventives- vendosja e rrethojës dhe shenjave të rrezikut

II. 3. Aktivitetet minerare në fushën qymyrore Sitnica dhe zhvendosja e Lumit Sitnica

II. 3. 1. Fusha qymyrore e Sitnices

Kjo fushë minerare shtrihet brenda zonës së KEK-ut, e licencuar nga KPMM, zonë kjo e cila është në tërësi e eksproprijuar. Arsyet e hapjes së kësaj fushe qymyrore konsistojnë në kufizimin-përfundimin e rezervave të qymyrit në minierat ekzistuese Bardh/Mirash, vonesat e hapjes së Minierës së Sibovcit Jug-Perëndim, si rezultat i vonesave në rehabilitimin e pajisjeve për angazhim në këtë minierë, dhe nevojave për qymyr për kapacitetet gjeneruese të termocentraleve Kosova A dhe Kosova B.

Për këtë minierë KEK-u ka dorëzuar në KPMM Projektet Plotësuese të Shfrytëzimit të hartuara nga Instituti INKOS.

Tani për tani nuk mund të konstatojmë se aktivitetet minerare do të kenë ndikim direkt apo indirekt në keqësimin e jetës dhe sigurisë së banorëve të fshatit Dardhishtë.

II. 3. 2. Zhvendosja e Lumit Sitnica

Është duke u bërë traseja e re e shtratit të lumit Sitnica në mënyrë profesionale dhe duke u mbikëqyrur nga KEK. Zona nëpër të cilën kalon traseja e re e Lumit Sitnica është e eksproprijuar në tërësi nga KEK.

Për zhvendosjen e shtratit të lumit Sitnica, KEK-u ka dorëzuar në KPMM Projektin e Zhvendosjes së Lumit.

Aktivitetet minerare këtu nuk parashihet që të ndikojnë negativisht në aspektin e sigurisë së banorëve të Dardhishtës dhe të pronës së tyre.

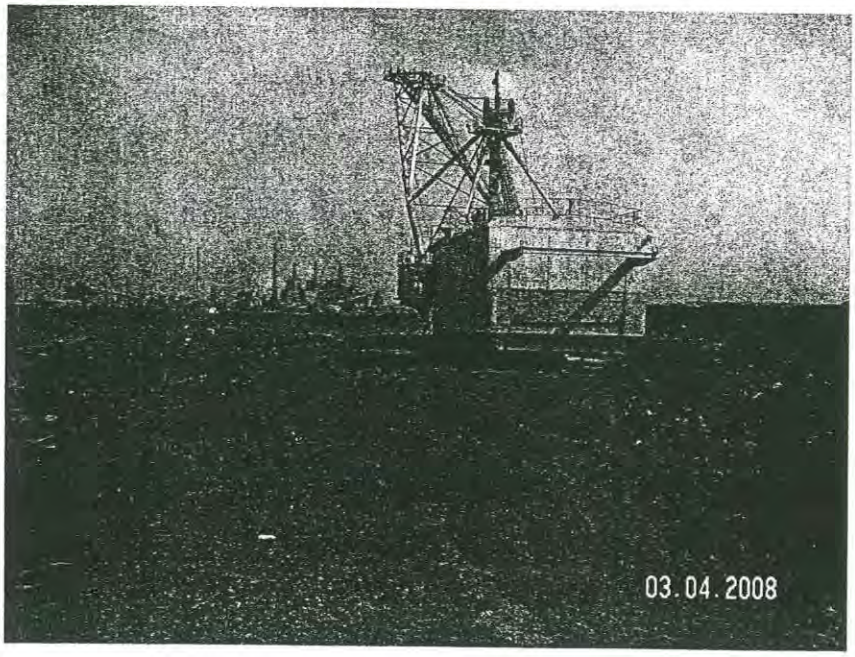


Foto.5. Punimet në trasenë e re të Lumit Sitnica

II. 4. PËRFUNDIMET DHE REKOMANDIMET

A) Për pikën II. 1, Deponinë e hirit të TC Kos-A

- Pjesa perëndimore e deponimit të djerrinës dhe hirit është bërë në mënyrë jo profesionale-teknike dhe si e tillë paraqet rrezik nga rrëshqitje e pa kontrolluara dhe si te tilla paraqesin rrezik dhe dame të paparashikueshme.
- KEK-u është i obliguar që merr masa teknike adekuate mbrojtëse për sanimin e gjendje së krijuar.
- KEK është i obliguar qe te gjitha aktivitet e ardhshme ta mbuloj me dokumentacion adekuat teknik.

B) Për pikën II. 2, Hinkat(spostimet) e krijuara në hapësirat mbi terrenin e ish minierës së Dardhishtës

- Te gjinden të gjitha hartat e situacionit dhe lokacionit të vend ndodhjes së punimeve të vjetra minerare të Minierës së Dardhishtës.
- Të bëhet identifikimi dhe përkufizimi i zonës së rrezikshme nga shembjet e punimeve të vjetra minerare nëntokësore dhe të merren masat e posaçme të sigurisë për tërë zonën.
- Të bëhet sigurimi i zonës në atë mënyrë sa që siguria të jetë e mjaftueshme për pengimin e pasojave eventuale

C) Për pikën II. 3.1, Aktivitetet minerare në fushën qymyrore Sitnica

- Projektet për sektorin e Sitnices duhet fillimisht të revidohen nga një Institut i Pavarur profesional, e më pas të aprovohen nga KPMM.
- Mbetet obligim i KEK-ut që të Inspektoj, dhe monitoroj aktivitetet minerare në fushën qymyrore të Sitnicës dhe të raportoj për implikimet e mundshme në raport me banorët e Dardhishtës.

D) Për pikën II. 3. 2, Zhvendosja e Lumit Sitnica

- Procesi teknologjik për shfrytëzimin e qymyrit në sektorin e Sitnicës ka kushtëzuar zhvendosjen e lumit Sitnica.
- KEK-u është i obliguar qe projektin e hartuar për zhvendosjen e lumit Sitnica duhet ta dërgoj për revidim në një Institucion përkatës dhe raportin e revidimit ta sjell për aprovim në KPMM.
- Mbetet obligim i KEK-ut që të monitoroj dhe raportojë për implikimet e mundshme gjatë dhe pas aktivitet të zhvendosjes së Lumit Sitnica.

Komisioni Profesional i KPMM:

1. Sabri Avdullahi, Kryetar _____
2. Nazmi Bytyqi, Anëtar _____
3. Hasan Maksuti, Anëtar _____
4. Midin Bojaxhiu, Anëtar _____

Prishtinë: 11.04.2008

Republika e Kosovës
Republika Kosovo- Republic of Kosova
Qeveria Vlada -Guvernment

Kuvendi Komunal Obiliq - Skupština Opštine Obilić - Municipality Assembly Obiliq

Për: Z Burim Gërguri- Kryetar i Këshillit të fshatit Dardhishtë

Nga: Z. Mehmet Krasniqi-Kryetar i komunës

Dt.8/05-2010
Obiliq

Lënda :Raport- Këshillit të fshatit Dardhishtë

Ministria e Mjedisit dhe planifikimit hapsinor më dt: 16/07-2008 ka formuar nji grup punues (vendimi nr.19/06-08) që ka pas për detyrë të bëj vlerësimin e rrezikut mjedisor në fshatin Dardhishtë. Grupi ka qenë i kryesuar nga zyrtari i kësaj ministrie z,Besim Dobruna.Në grupin punues ka qenë e përfaqsuar edhe komuna e Obiliqit.Në punimet e komisionit kemi qenë aktiv dhe kemi ofruar të gjitha të dhënat dhe dokumentacionin e nevojshëm për të argumenuar shqetësimet e banorëve të fshatit.Komisioni e ka përfunduar punën profesionale dhe ka mbet që Raporti përfundimtar nga ky grup punues të procedohet në Qeveri.
Në kuadër të kompetencave dhe mundësive buxhetore komuna do të merr përgjëgjsin që do të adresohen për zgjidhjen e problemeve mjedisore të trashiguara nga aktivitet minerare dhe gjenerimi i energjis elektike në të kaluarën dhe tani.
Në fillim të viteve të 80-ta ish Elektroekonomia e Kosovës në emër të dëmeve që ju ka shkaktuar banorëve të fshatit e ka ndërtuar rrjetin e ujësjellsit për furnizim me ujë të pijëshëm dhe ka pasur marrëveshje të bëj pagesen e ujit të pijëshëm që kanë shpenzuar këta banorë.Në të njejtin vijë të rrjetit të ujësjellsit janë lidhur edhe objektet e KEK-ut.
Në vitet e fundit banorët e këtij fshati ballafaqohen me ndalesa dhe redukime të ujit për shkak të borgjeve që kan ndaj KRU"Prishtina" në Prishtinë.
Kemi kërkuar (Dt: 7.05.2010.) nga KEK-u që të shqyrton mundësin se ndoshta KEK-u i paguan të gjitha shpenzimet që krijohen nga vija(rrjeti) e njejtë e furnizimit me ujë dhe në të njejtën kohë faturohen edhe shpenzimet e banorëve ose të përtrihet marrëveshja e mëherëshme në mes të banorëve të fshatit dhe KEK-ut.

Republika e Kosovës
Republika Kosova-Republic of Kosovo
Qeveria -Vlada-Government

Ministria e Mjedisit dhe Planifikimit Hapësinor
Ministarstvo Sredine i Prostornog Planiranja
Ministry of Environment and Spatial Planning

Inspektorati/Inspektorat/Inspectorat

LISTË DISTRIBUIMI/ CIRKULARNO PISMO/ ROUTING SLIP

REFERENCË:					
PËR/ZA/TO:	z. Mahir Jagcilar, Ministër i MMPH-së				
CC:					
PËRMES/PREKO/THROUGH:	z.Muhamet Aliu, Sekretar permanent i MMPH-së z.Besim Dobruna, U.D. e Kryeinspektorit të MMPH-së				
NGA/OD/FROM:	Vehbi Ejupi,Inspektor i Mjedisit Florije Kqiku,Inspektore e Ndërtimit				
T[illegible]MA/SUBJEKAT/SUBJECT:	Raport mbi aktivitete e zhvilluara të MMPH-së në lidhje me Deponinë e hirit të KEK-TE "Kosova A" në fsh. Dardhishtë-Obiliq				
Nr. i zyrës: Br. kancelarije: Room No.:		Lokacioni: Kucni: Extension:		Data: Datum: Date:	16.04.2008
PËR AKTIVITET/ZA AKTIVNOST/FOR ACTION					☐
PËR MIRATIM/ZA USVAJANJE/FOR APPROVAL					☐
PËR NËNSHKRIM/ZA POTPIS/FOR SIGNATURE					☐
PËR KOMENTE/ZA KOMENTARE/FOR COMMENTS					☐
A MUND TË DISKUTOJMË/DALI MOZEMO RASPRAVLJATI/MAY ĚE DISCUSS					☐
VËMENDJA JUAJ/VASA PAZNJA/YOUR ATTENTION					☒
SIPAS DISKUTIMIT/KAKOJE RASPRAVLJENO/AS DISCUSSED					☐
SIÇ ËSHTË KËRKUAR/KAKO JE ZATRAZENO/AS REQUESTED					☐
SHËNIM DHE PËRGJIGJE/BELESKA I ODGOVOR/NOTE AND RETURN					☐
PËR INFORMIMIN TUAJ/ZA VASU INFORMACIJU/FOR YOUR INFORMATION					☒
AFATI/KRAJNI ROK/DEADLINE					

http://www.ks-gov.net/mmph E-mail: florije.kqiku@ks-gov.net & vehbi_ej@yahoo.com

Vlerësimi i rrezikut të shëndetit të njeriut dhe mjedisit në fshatin Dardhishtë dhe Grabovc nga ndotja.

a) Gjendja mjedisore ekzistuese dhe identifikimi i ndotësve
   - Ndotja e ajrit
   - Ndota e ujit
   - Ndotja e tokës
   - Çështja e sigurisë

Gjendja mjedisore mund të përshkruhet në bazë të informacioneve ekzistuese (monitorimet, studimet e mëhershme, elaboratet dhe projektet aktuale, vizitës, intervistat - nëse e nevojshme, etj).
Të dhënat mbi ndotjen duhet të analizohen dhe të vihen në relacion me kufijtë e lejueshëm (standardet dhe kufizimet ligjore - nëse jo vendore, me standardet evropiane, organizatës për shëndetësi etj).
Kjo duhet te behet, sepse vlerësimi duhet të bazohet në ndonjë parametër krahasues. Pra duhet të gjejmë argumentet, mbi të cilat mund të mbështetën më vonë propozimet e grupit.

b) Masat në zhvillim dhe ato të planifikuara për përmirësimin e gjendjes mjedisore në këtë zonë, si psh.
   - Projekti i Bankës Botërore
   - Transporti hidraulik i hirit Kosova A
   - Modernizimi eventual i EF te Kosova A (donacion, investitor privat!?)

Vlerësimi i ndikimeve pozitive, dhe afatet kohore të pritura.

c) Planet zhvillimore/operacionale të KEK-ut dhe termocentrali i ri
   - Zhvendosja e lumit Sitnica
   - Hapja e minierës në sektorin lindor
   - Ndërtimi i TC të ri, etj.

d) Mbi bazën e gjendjes ekzistuese dhe asaj të planifikuar, do të duhej dalë me propozimet dhe rekomandimet e masave për përmirësimin e gjendjes, apo edhe ndoshta zhvendosjes parciale, tërësishme etj.

Raport mbi vizitës ne fsh. Grabovc , K Fushë Kosovë dhe në fsh. Dardhishtë, Obiliq.

Si rezultat i shumë ankesave të bëra nga qytetarët e fshatit Grabovc dhe Dardhishtë në lidhje me çrregullimet mjedisore që ju sjell sistemi prodhues i termoelektranës Kosova A; posaçërisht deponia e hirit në Dardhishtë ekipi nga MEM-i,MAPL-i, MMPH-së , K.Obiliqit dhe K. Fushë Kosovës doli në vendin e ngjarjes për të parë për së afërmi gjendjen faktike.
Gjatë kësaj vizite banorët njoftuan për së afërmi për gjendjen e rëndë mjedisore dhe i shprehën shqetësimet e tyre. Ata parashtruan disa kërkesa si :
- Të behët dislokimi i Lagjes Berishë të fsh. Grabovc
- Që menjëherë te ndërpritet aktiviteti i KEK-ut ne afërsi (50 m) lagjes Berisha.

Gjendje e banorëve në fsh. Dardhishtë, Obiliq është alarmuese dhe si vijon:
ekziston presioni dhe rreziku permanent nga Deponia e hyrit ku ende vazhdon aktiviteti i KEK-ut te deponimit hyrit.
Sipas procesit teknologjik TC- A , ky hyri ka elemente mbeturinave të rrezikshme!
Ekziston rreziku permanent nga ish-miniera për geostatikën e fshatit,
Pritet ngritja e presionit dhe rrezikut nga miniera e re (ne largësi afër 100 m) dhe nga Lumi Sitnica.

Rekomandimet:

Krijimi i grupit Punues për :
Vlerësimin e rrezikut ne Grabovc dhe Dardhishtë,
Hartimin e Planit e intervenimit në rast të aksidentit ekologjik sipas nenit 27. te Ligjit për Mbrojtjen e Mjedisit (, Rregullores nr.2003/9) .

Permabajta e Grupit Punues:

2 anëtar nga MMPH,
2 anëtar nga MEM,
1 anetar nga MAPL,
1 anëtar nga K. Obiliqi,
1 anëtrar nga K. Fushë Kosovës.

Me respekt

http://www..ks-gov.net/mmph E-mail: florije.kqiku@ks-gov.net & vehbi_e@yahoo.com

TEMA:

VLERËSIMI I RREZIÇEVE TË VENDBANIMEVE
(FSHATI DARDHISHTE DHE GRABOFC NGA OBJEKTET E KEK-ut)
DHE MASAT PËR MËNJANIMIN E TYRE

Përmbajtja.

  - Rrethi i gjerë i Fshatit Dardhishte
  - Rrethi i gjerë i Fshatit Grabofc
- Analiza e gjendjes ekzistuese të Deponisë së hirit të Kosovës "A":
  - Analiza e Deponisë së hirit në bazë harta e situacionit të – incizimi ma i ri
  - Analiza e profileve (prerja vertikale) me drejtim Lindje-Perëndim (në drejtim të Fshatit Dardhishte)
- Analiza e punimeve të vjetra nëntokësore në Dardhishtë, në bazë të hartës së situacionit :
  - Analiza e shtrirjes horizontale të punimeve nëntokësore
  - Analiza e shtrirjes, në thellësia, të punimeve nëntokësore
  - Analizat tjera të rëndësishme nga të dhënat e prezantuara.
- Analiza e të dhënave për materialet e hedhura në zbrazësi të punimeve të vjetra në Dardhishte (Fenolët)
- Ana;liza e materialeve tjera dokumentuese të hartuara për këto lokacione lidhur me ajrin, ujin, tokën, zhurmën etj.
- Analiza e materialeve tjera dokumentuese për efektet në shëndetin e gjallesave (njerëzve, kafshëve, shpezëve etj.)
- Analiza e të dhëna të tjera nga KEK-u, nga fshatarët e Fshatit Dardhishte, nga Inkos-i
- Analiza e legjislativit dhe nxjerrja e obligimeve nga legjislativi i Republikës së Kosovës dhe nga direktivat e bashkësisë Evropiane etj.

Niveli i tretë: **Propozimi i zgjidhjeve në variante** (së paku dy variante)

Niveli i katërtë: **Zgjedhja e variantit ma të pranueshëm për KEK-un dhe fshatarët e vendbanimeve të rrezikuara**

Niveli i pestë: **Implementimi i variantit të zgjedhur.**

P. S.:

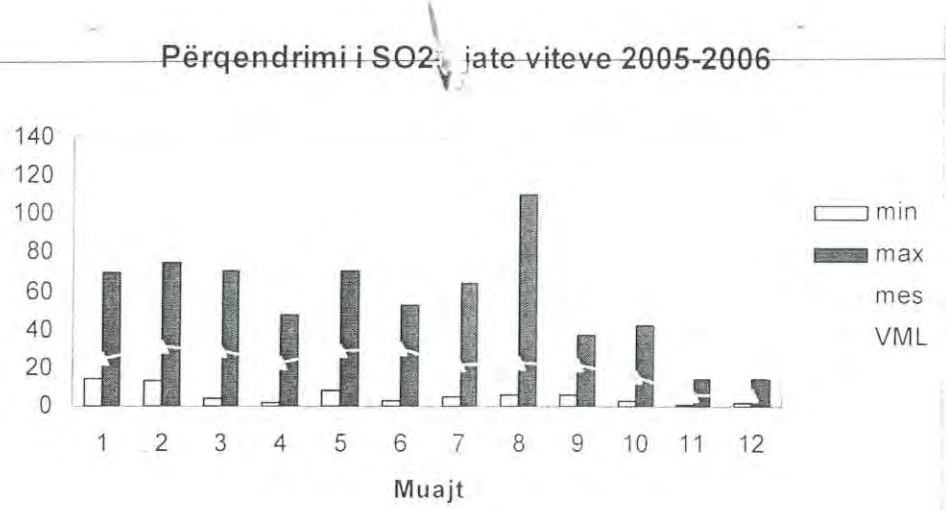
- **PËRGATITJA E TERMAVE TË REFERENCËS**

- **SIGURIMI I MJETEVE FINANCIARE PËR HARTIMIN E STUDIMIT – TË SHIKOHET RRUGA PREJ MJETEVE NJËBURIMORI**

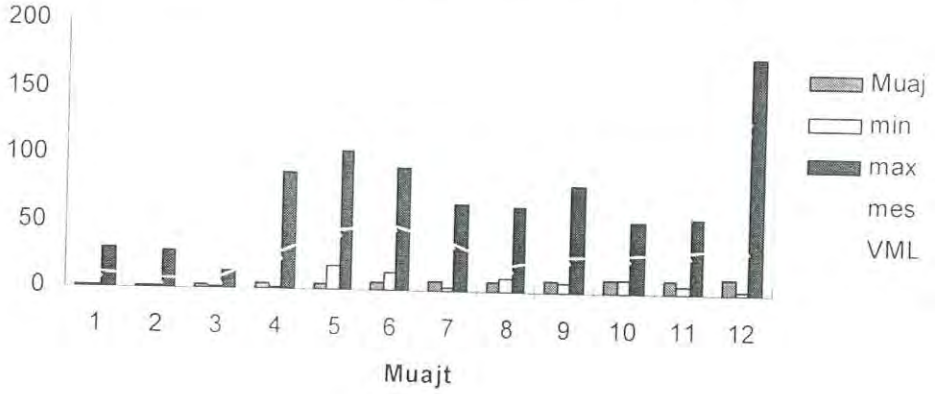
NAZIM HOXHA, MEM
15.07.2008
PRISHTINË

4- **Deponitë e hirit**
   -Ëmetimi i pluhurit
   -Kontaminimi i ujërave me fenolë nga rrjedhjet prej deponive të hirit
5- **Trafiku**
   -Ëmetimet në ajër dhe zhurma
6- **Ndotja urbane**
   -Shkarkimet e ujërave të zeza me origjinë fekale të pa trajtuara
   -Mbeturinat e ngurta urbane
7- **Deponija sanitare e mbeturinave në Mirash**
   Shkarkimi i ujërave të ndotura në lumin Sitnicë

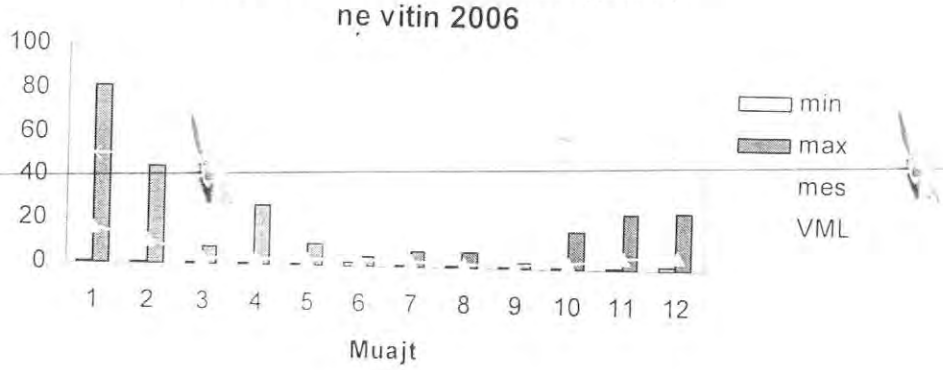
Ndotja e mjedisit në territorin e komunës është e përditshme, ndërsa shkalla e ndotjes varet nga kapacitet që janë në prodhim gjatë ditës, disa emisione i tejkalojnë vlerat e përqendrimit mesatar të lejuara nga Organizata botërore e shëndetësisë(OBSH), kështu që rrezikojnë shëndetin publik të banorëve si dhe ndikojnë në gjendjen socio-ekonomike të tyre. Monitorimi i shkallës së ndotjes në mjedis e bën IKOS-i dhe këtu më poshtë po i paraqesim disa matje që janë bërë nga INKOS-i.



Përqendrimi i SO2 gjate viteve 2005-2006



Përqendrimi i blozës (mikrogr/m3)
ne vitin 2006



Vlerat mesatare të pluhurit sipas INKOS-it, gjatë viteve

Ndotësi/vendi		INKOS	Kastriot	Bardh	PML
Thërmijat ajrore	2002	85.13	-	119.04	150 µg/m³
	2003	100.4	91.85	113.43	
	2004	56.8	-	-	
	2005	56.0	-	-	
Pluhuri depozit	2002	727	-	817.2	300 mg/(m²d)
	2003	1865	553.61	410.85	
	2004	313	460	195	
	2005	429	428	-	

Shënim: Vlerat me ngjyrë të kuqe tregojnë për tejkalim të PML. (përqendrimi maksimal i lejuar)

Nga të dhënat e paraqitura për vitin 2005, 2006 dhe 2007 në disa pika monitoruese janë regjistruar tejkalime të vlerave maksimale të lejuara. Bloza dhe grimcat e pluhurit të depozituar janë shënuar me tejkalime në disa raste, ndërsa SO_2 ka shënuar më pak tejkalime të VML, edhe pse në disa raste kanë qenë mjaft të larta

Gjendja më e rëndë mjedisore është në fshatin Dardhishtë. Fshati Dardhishtë është një vendbanim që shtrihet në jug të territorit të komunës së Kastriotit. Mjedisi jetësor në këtë vendbanim është nën presion të tri problemeve të mëdha mjedisore, në jug të fshatit gjendet deponija e hirit në lindje nga TC "Kosova A" ndërsa në perëndim të fshatit po bëhet hapja e mihjes së re sipërfaqësore të thëngjillit-sektori Sitnica.

Deponija e hirit TC "Kosova-A"i ka uzurpuar 242 ha dhe pjesa perëndimore e kësaj deponie të hirit dhe djerrinës është bërë në mënyrë jo profesionale-teknike kështu që ka filluar rrëshqitja e pa kontrolluar e saj dhe drejt për drejti për çdo ditë po e rrezikon jetën e banorëve që janë shumë afër kësaj deponie (50m).Po në këtë zonë gjendet edhe ish Miniera nëntokësore thëngjillit e cila ka qenë në punë gjatë viteve 1946-1960. Galeritë e kësaj miniere janë shfrytëzuar për hedhjen e mbetjeve teknologjike të Gazifikimit gjatë viteve 1980-1989 siç janë: fenolët,teri katran dhe vajra të rënda me origjinë nga thëngjilli. Në këtë zonë të punimëve të vjetra të Minierës janë paraqit shenja të shembjes së kësaj Miniere, në mars të këtij viti është paraqit shembja e fundit. Dyshohet se shtëpitë e lagjes së hirit janë të ndërtuara mbi këtë zonë dhe kërkohet një zgjidhje shumë urgjente për sigurinë e këtyre banorëve.[Nga zgjerimi i Mihjes sipërfaqësore të thëngjillit është dislokuar një pjesë e fshatit Hade,ndërsa pjesa e mbetur e banorëve të këtij fshati bën një jetë të vështirë të pa perspektivë me shqetësime nervore.

Nga zhvillimi i sektorit energjetik dhe nga eksploatimi i thëngjillit banorët e kësaj komune kanë një përvojë të hidhur për shkak se kanë pasoja negative e sidomos me pasoja në shëndetin e tyre. Nga Komisioni i pavarur për minierë dhe minerale ,autoritet i autorizuar me rregulloren .nr2005/3 për vendosjen e tarifave dhe taksave kemi bërë kërkesë që të vendosë një taksë ambientale për ndotje të mjedisit dhe të ndajë një përqindje nga tarifat që janë të vendosura për eksploatimin e thëngjillit . KPMM ka përkrahur kërkesën tonë por kanë kërkuar që kjo çështje të rregullohet me një marrëveshje në mes të Ministrisë për Ekonomi dhe Financa ,Ministrisë për Energji dhe Miniera dhe Komunës. Deri më sot nuk kemi arritur që të realizojmë këtë takim . Kërkojmë edhe nga Ju që të ne përkrahni në realizimin e kësaj marrëveshjeje.

Njësia Org. / Org. Jedinice / Org. Unit: MMPH
Nr. Prot. / Broj Prot. / Prot. No.: 08/1385/1
Nr i faqeve / Br. Stranica / No. Pages: -01-
Data / Datum / Date: 20/06/2008
Prishtinë / a

Republika e Kosovës

Republika Kosova-Republic of Kosovo

Qeveria –Vlada-Government

Ministria e Mjedisit dhe Planifikimit Hapësinor
Ministarstvo Sredine i Prostornong Planiranja
Ministry of Environment and Spatial Planning

ZYRA E MINISTRIT **KANCELARIJA MINISTRA** **OFFICE OF THE MINISTER**

Data: 11. 06. 2008
Nr. 19/06-08

- Duke u bazuar në nenin 1.3 pika (ç) të Rregullores së UNMIK-ut 2001/19 të Mbi Degën e Ekzekutivit të Institucioneve të Përkohshme të Vetëqeverisjes në Kosovë,
- Duke u bazuar në gjendjen momentale në fshatin Dardhishtë (Obiliq) dhe fhatin Grabovc (Fushë Kosovë) marr;

V E N D I M

Për formimin e grupit punues për vlerësimin e rrezikut nga aktivitetet e Korporatës KEK-u në fshatin Dardhishtë dhe Grabovc në këtë përbërje:

1. z. Besim Dobruna- MMPH- Kryetar i Grupit
2. z. Enver Tahiri- MMPH
3. znj. Gynaj Hallaq- MMPH
4. z. Skender Zogaj- MAPL
5. z. Nazim Hoxha- MEM
6. z. Sherafetin Mumciu – MEM
7. Përfaqësues i KEK-ut
8. Përfaqësues i Komunës Obiliq
9. Përfaqësues i Komunës Fushë Kosovë

Grupi ka për detyrë hartimin e planit të veprimin për vlerësimin e rrezikut në afat sa më të shkurtër. Dhe ky plan do t'i propozohet Qeverisë

Mahir Yağcılar
Ministër

Vendimi u dërgohet:

- Sekretarit të Përhershëm
- Zyrës së Ministrit
- Anëtarëve të grupit

"Nazim Gafuri" Nr.31 -10.000 Prishtinë-Kosovë
Telefon/Faks: +38138517658, +38138517558
http://www.ks-gov.net/mmph E-mail: mmph@ks-gov.net

Takim i Grupit Profesional i datës 01. 08 2008

Analiza e dokumentacionit te siguruar nga përfaqësuesit: KEK, KK Kastriot dhe MEM-i

Dardhishtë

Duke u bazuar ne qëndrimet te marra me datën 25.07.2008, personat e autorizuar Behxhet Shala përfaqësues i KEK-it dhe Nazim Hoxha përfaqësues i MEM-it edhe një here prej fillimit i morëm ne shqyrtim te tere dokumentacionit dhe për çdo dokumentacion veç e veç e morëm mendimin, material ky qe do te përgatitet për takimin e radhës te grupit profesional.

Ne baze te listës te cilën e kemi diskutuar bashkërisht ne takimin e datës 25.07.2008 janë dhënë mendimet si me poshtë :

1. Projekti i fundit i hartuar për deponin e hirit për TC Kosova A ne lokacionin e fshatit Dardhishte është i emërtuar "Zgjerimi i deponise ekzistuese te Hirit ne TC Kosova A", Prill 2008 i hartuar nga Instituti INKOS .
   Projekti lartshënuar ne përmbajtjen e vet i ka te përpunuara këto veçori;
   Karakteristikat gjeologjike te terrenit, analizat laboratorike gjeomekanike, incizimet gjeodezike, teknologjia dhe mënyra e deponimit si dhe masat mbrojtëse mjedisore.
   Nga pikat e lartshënuar te këtij projekti mund te konstatohet ne vija te trasha se projekti është hartuar ne pajtim me kërkesën e investuesit Divizioni i Gjenerimit te KEK-it.
   Me këtë projekt është kërkuar qe te analizohet ne te gjitha rrethanat për kalimin e deponimit te masave ne anën lindore te deponisë. Është me rëndësi te ceket se me këtë projekt nuk është trajtuar pjesa perëndimore dhe jugore e deponise dhe rrethit te deponise.

1. Për palosjen e djerrinës në pjesën lindore të deponis së hirit të Kosova A, KEK nuk disponon me projektin e palosjes dhe të dhënat tjera, si sasia e dheut të palosur, vetit dhe përmasat e sakta të kësaj djerrine.
   Nga vështrimet ortografike të këtij territori, vërehet se nen ndikimin e presionit nga deponia e hirit masat palosura te dheut janë vu ne lëvizjen ne dy drejtime: ne anën jugore të djerinës me drejtim te lëvizjes kah Jugu dhe ne anën perëndimore me drejtim te lëvizjes kah Perëndimi. Ne baze te një incizimi satelitor te deponisë se hirit, mund të jep këto vlera të përafërta: a) lartësia mbidetare e kësaj deponi është ca. 610 metra ndërsa lartësia e sipërfaqes së tokës, ne pjesën perëndimore të deponim, është ca. 536 metra. Do të thotë se deponia ka një lartësi rreth 74 metra, b) zonat më të rrezikuara nga rrëshqitjet e kësaj deponie, për shkak te sasive te larta të deponimit të hirit dhe djerrinës, janë ne anën jugore dhe atë perëndimore të deponim së djerrinës. Është me rëndësi të ceket se rrëshqitja në drejtim të perëndimit paraqet rrezik më të lartë, për shkak të afërsisë së vendbanimit të disa lagjeve të fshatit Dardhishtë.

2. Në lidhje me kthimin e hirit nga Deponia e hirit të TC Kosova A në zbrazësin e MS Mirash, ekziston një studim preliminar, i financuar nga Banka Botërore, i cili më pastaj gjatë hulumtimeve më detale nga kompania Vattenfall-Dmt, ka rezultuar si i pa mundshëm për rrethanat ekzistuese. Nga këto hulumtime, si opsioni më i favorshëm është vlerësuar stabilizimi i dhe rekultivimi i deponim, i cili është përkrahur edhe nga vetë menaxhmenti i KEK-ut.

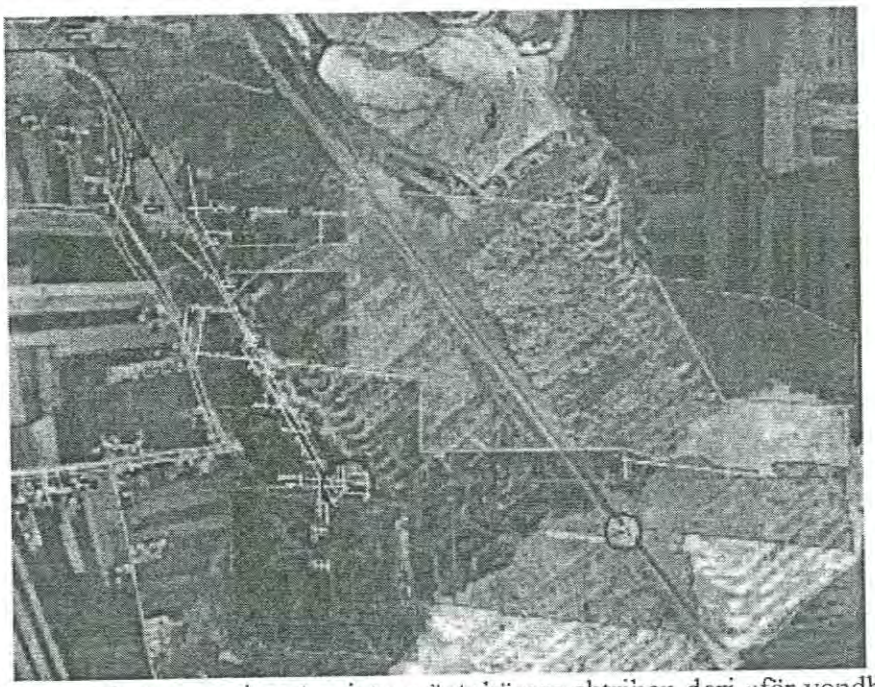
3. Lidhur me stabilitetin e Deponise nuk është punuar ndonjë projekt gjeomekanik, që do ta definoj stabilitetin e shpatit deponues, prandaj me te drejt mund te konstatohet se nuk ka ndonjë analize e cila do te saktësonte kufirin e rrezikut nga rrëshqitja. Nga hulumtimet gjeomekanike të kryera në kuadër të projektit të hirit, i financuar nga Banka Botërore, konfirmohet jo-stabiliteti i shpateve të deponis.

4. KEK posedon hartën topografike-tematike (2007) në shkallë 1 : 25 000 e cila paraqet të gjithë zonën e KEK-ut, përfshirë edhe fshatin Dardhishtë dhe Grabovc.

5. Rreth shpronësimit (eksproprijimi) te pasurive te shtëpive te fshatit Dardhishte (lagja e Gashit) është përdorur si baze informata e datës 18.10.2007 dhe informata zyrtare e datës 20.11.2000 (Këto dy informata janë pjesë shtesë e Raporti profesional). Sipas këtyre informatave, shihet qartë se lagja Gashi është rrezikuar nga rrëshqitjet. Mirëpo këtu ekziston ende një kontest në mes KEK, KK Kastriot dhe KK Fushë Kosove rreth shpronësimit të kësaj lagje.

Kjo lagje konsiderohet mjaftë e rrezikuar fizikisht dhe duhet te këtë prioritet ne zgjidhjen e problemit te tyre.
Për pjesën rreth zhvendosjes se lumit Sitnica, në aërsi te hekurudhës, është bërë pjesërisht eksproprijimi i pasurive. Komisioni mendon se ky shpronësim nuk është bere në bazë të ndonjë norme të caktuar mjedisore, dhe një pjesë është lënë pa u marr ne shqyrtim (jashtë eksproprijimit)..

6. Sa i përket punimeve te vjetra minerare nëntokësore, në kuadër të projektit të Bankës Botërore është paraqitur plani i punimeve nëntokësore, bazuar në të dhënat ekzistuese që kanë qenë në diskonim. Ne këtë raport janë prezantuar punimet e vjetra nëntokësore minerare dhe shtrirja e tyre.



Nga foto më larte vërehet se punime te vjetra nëntokësore shtrihen deri afër vendbanimit të cilat mund të paraqesin rrezik fizik për këtë pjesë. Për fshatin Dardhishtë mund të thuhet se janë dy faktorë me potencial rreziku për sigurinë e një pjese të banorëve:

1. Shembja e galerive nëntokësore, shtrirja e të cilave nuk është krejtësisht e njohur. Nga të dhënat ekzistuese, disa shtëpi (dy-tri) gjenden shumë afër, apo edhe mbi galeritë/tunelet nëntokësore.
2. Rrëshqitja e djerrinës (palosjes) në drejtim të vendbanimit. Sipas vlerësimeve, djerrina ka një ratë të lëvizjes prej afër 1,5 m/vit, dhe atë të shkaktuara kryesisht gjatë sezonit me të reshura atmosferike.

Trendet
Me masat e parapara në kuadër të projektit për mbylljen e deponis, parashihet edhe stabilizimi i këtyre masave. Kjo do të arrihet në afat kohor prej 3-4 vite. Ndërsa sa i përket galerive/tuneleve nëntokësore, kërkohet një program i veçantë hulumtimi rreth gjendjes së tyre (përmasat, shpërndarja, përmasat e kontaminimit, etj.)

Komisioni Profesional duke u bazuar ne faktet e lartshënuara propozon që pjesa e punimeve nëntokësore minerare kah vendbanimi i fshatit Dardhishte të jete i rrethuar me gardh ku i ndalohet qasja e njerëzve, kafshëve etj. Ketë e merr obligim te KEK-u .

8 Evidenca rreth hedhurinave te ndryshme ne zbrazëtirat e punimeve te vjetra minerare nëntokësore ne lokacionin e fshatit Dardhishte.
Komisioni profesional rreth këtyre hedhurinave nuk ka materiale dokumentuese para vetes por ka vlerësime, të bëra nga stafi menagjues i Gazifikimit. Sipas atyre te dhënave, gjatë kohës se prodhimit te gazit, si nuss produkte janë prodhuar rreth 2100 tona duke përfshire se bashku terrin e rende, terrin e mesëm dhe ujërat fenolike. Këto materie janë hedhur ne lokacione te ndryshme si : 1) ne zgafellet e Dardhishtës dhe Hades, 2) ne deponin e Hirit te Kosovës A , 3) ne afërsi te objektit te Biologjisë së Tertores, por nuk përjashtohen edhe lokacionet tjera te cilat nuk janë evidentuar.

9 Lidhur me zhvendosjen e fundit te lumit Sitnica, në afërsi te hekurudhës pjesa e regjionit te fshatit te Dardhishtës, është hartuar një projekt nga Institutit INKOS në vitin 2008. Me këtë projekt është definuar qartë Trasa e shtratit te lumit ne baze te cilit janë kryer punët ne teren. Projekti ne fjale përveç hartës se shtrirjes se saj përmban edhe profilet tërthore. Është me rendësi te ceket se me zhvendosjen e lumit Sitnicë, ujërat e ndotura do tu ofrohen një pjese të vendbanimit. Në këtë aspekt gjendja do të përkeqësohet dhe për këtë arsye banuesit e këtij lokacioni janë mjaftë të shqetësuar.
Sa i përket efluenteve, sipas projektit për pastrim dhe rikultivim (donacion nga Banka Botërore dhe Qeveria Holandeze), të gjitha ujërat sipërfaqësor të zonës së deponis do të drenazhohen dhe do të evitohet kontakti i tyre me hirin dhe ndotësit tjerë në deponi. Kjo do të ndikon që të përmirësohet gjendja sa i përket kualitetit të ujërave sipërfaqësor.
Kuptohet, përveç kësaj, një përmirësim i shtratit të efluentve përgjatë vendbanimit do të ndikonte edhe në evitimin e vërshimeve të cilat po ndodhin në sezonet me të reshura të larta atmosferike.

Ujërat nëntokësor
Gjendja
Sipas disa përshkrimeve ekzistuese ujërat nëntokësor në masën më të madhe tregojnë kontaminim. Ndikim të veçantë në ndotjen e tyre mund të kenë mbetjet e ndryshme kimike, si katran, fenole etj., të cilat gjatë periudhës së prodhimit të gazit janë shkarkuar në deponin e hirit dhe në galeritë nëntokësore. Gjendja e këtyre kontaminuesve në raport me ujërat nëntokësor është jo e qartë. Këtë e bënë edhe më të komplikuar shembja e galerive, të cilat ndikojnë edhe në ndryshimin e gjendjes

origjinale të shtresave të ndryshme litologjie. Me këtë rast edhe ujërat nëntokësor të galerive (ku janë hedhur mbetjet kimike), nën kushte të caktuara, mund të vijnë në kontakt me shtresa permeabile të cilat mundësojnë lëvizjen e tyre nëntokësore.

Trendet
Sikurse ujërat sipërfaqësor edhe ujërat nëntokësor kanë lëvizje nga lindja - juglindja (deponia) në drejtim të perëndimit – veriperëndimit (lumit Sitnicë), zonë mbi të cilën gjenden vendbanimet e Dardhishtës. Nga ky këndvështrim, ujërat nëntokësor të këtij vendbanimi gjenden në një hapësirë me potencial të madhe ndotje. Për këtë arsye, edhe nëse për momentin puse të caktuara nuk tregojnë shenja të ndotjes, përdorimi i tyre nuk është i sigurt dhe do të duhej të evitohet përdorimi i tyre për amvisëri.
Përmes projektit për mbylljen e deponim do të zvogëlohen përmasat e kontaktit të ujërave sipërfaqësor më ata nëntokësor. Megjithatë për njohuri më të thella rreth nivelit dhe llojit të kontaminimit të ujërave nëntokësor dhe shtrirjes së tyre, rekomandohen hulumtime shtesë të kësaj zone.
Me prerjet tërthore te shtratit te ri garantohet siguria ndaj vërshimeve eventuale.
Edhe një here duhet cekur se shtëpitë qe janë shume afër lumit sugjerohet te zhvendosen.

10. Projekti i fundit i hartuar për mihjen e re sipërfaqësore ne lokacionin e fshatit Dardhishte, i njohur me emrin Sitnica i hartuar ne vitin 2008. Mendohet se thellimi i mihjeve sipërfaqësore në afërsi te shtratit të lumit, do të ndikon në tharjen e zonës së fshatit Dardhishte.

11. Te dhënat tjera lidhur me ndotjen e ajrit, tokës dhe ujit, KEK-u ka hartuar raport për vitet 2006 - 07 për mjedisin ku këta parametra janë te përpunuar në shumë detaje dhe kanë shërbyer si baze për grupin profesional te punës.

12. Sa i përket ndikimit të ndotjes në mjedis dhe shëndetin njerëzor, KEK-u, gjegjësisht Medicina e Punës, nuk disponon me të dhëna. Nuk është bërë një studim i tillë deri më tani.

13. Kuvendi Komunal Kastriot ne takimin e fundit gjithashtu i ka prezantuar te dhënat e veta qe kanë te bëjnë me fshatin Dardhishte.

- Është dorëzuar harta kadastrale Kastriotit, regjioni i Dardhishtës, ku janë prezantuar pasurit individuale te banuesve te këtij fshati, të cilat për komisionin profesional janë te rëndësishme në mënyrë te veçanet zonat e rrezikuara.
- KK gjithashtu i ka dorëzuar disa raporte prej te cilave do ti veçojmë shtëpitë e planifikuara për zhvendosje nga zonat e rrezikshme, që ne evidencën e vjetër janë 19/20 familje Raport i viti 2001/2002
- Kuvendi Komunal ne strategjinë e vet, duke analizuar problematiken e rreziqeve dhe evakuimin e këtyre shtëpive, gjithashtu ka planifikuar hapësirën ku mund te zhvendosen shtëpitë e lartshënuara te cilat janë trajtuar edhe ne planin hapësinor.
  Në fshatin Shkabaj është përgatitur një plan rregullativ nga MMPH për fshatin Hade. Meqenëse Komuna e Obiliqit është në fazën përgatitore të planit zhvillimor, do të shqyrtohet mundësia e shfrytëzimit të kësaj hapësire në Shkabaj edhe për banorët tjerë eventual. për banoret tjerë. Komuna po ashtu posedon një plane për evakuim emergjent në raste të fatkeqësive natyrore.

Rekomandimet

Grupi profesional, pas një vlerësimi te bërë dokumentacionit në disponim jep rekomandimet si në vijim:

a) Zgjidhja më e pranueshme dhe logjikshme do të ishte, sikur te ekzistonin mundësit financiare, që i tërë fshati të zhvendoset nga lokacioni i Dardhishtës.
b) Propozohen zgjidhje të mundshme, si për subjektet te cilat do marrin vendime dhe përgjegjësi ashtu edhe për banues te fshatit Dardhishtë, qe çështja e këtij vendbanimi te zgjidhet ne faza me dinamik.

1. Palosja e masave te hirit ne krahun perëndimor te deponis (në afërsi të fshatit Dardhishte) të ndërpritet menjëher. Palosja e këtyre masave te vazhdoj te behet ne pjesën lindore te deponisë sipas projektit te hartuat nga Instituti INKOS, dhe rekomandimeve të Vattenfall-Dmt duke marrë edhe masat shtesë për reduktimin e pluhurit.
2. Zona ku janë te kryera punimet e vjetra nëntokësore, në të cilat edhe janë hedhur mbetje kimike (me përmbajtje kryesisht fenolike) nga zona e Gazifikimit, të vehet nën rrethoj për te gjitha llojet e gjallesave, ndërsa objektet qe gjenden brenda rrethojës te largohen.
3. Të bëhet një studim i sigurisë (gjendja e galerive nëntokësore dhe shtrirja e tyre) dhe kontaminimit të kësaj zone (lloji dhe përmasat e kontaminimit të ujërave dhe taokës).
4. Propozohet që kontesti i pronave të banorëve që kanë jetuar apo jetojnë në afërsi te rrëshqitjes te masave te dheut dhe hirit (ana perëndimore e deponim – 20 familjet e zhvendosura më parë) të zgjidhet sa më parë.
5. Të zhvendosen urgjentisht banuesit e shtëpive nga zona e rrezikut.
6. KEK-u te angazhoj një kompani qe te bej një analize gjeomekanike e cila do ta definoj zonën e rrezikut te mundshëm prej rrëshqitjes, e cila do të konsiderohej si zone e rrezikut.
7. Të bëhet sigurimi i mjaftueshëm me ujë te pijes për nevojat e tere fshatit Dardhishte.

c) Të monitorohet pjesa e shtëpive te cilat gjinden ne afërsi te kufirit te minierës se Sitnices (te mbetura jashtë ekspropriimit) dhe nëse efektet e ndotjes janë me te mëdha se ato te lejueshme, të gjendet mënyra për zhvendosjen e mëtejshme te këtyre pjesëve te rrezikuara. Prandaj Komisioni Profesional i sugjeron dy kuvendeve komunale dhe KEK-ut, që kjo të merret në konsideratë dhe ti shikon mundësit për ekspropriim te pjesës së mbetur të lagjes në mes lumit dhe hekurudhës.

Duke i marr për baze te gjitha këto që u thanë më sipër, rekomandohet se me prioritet do të ishte monitorimi dhe vlerësimi mjedisor nga Agjensioni Kosovar për Mbrojtjen e Mjedisit (AKMM).
Ne aspektin financiar për këto aktivitete rreth fashit Dardhishte duhet shikohen mundësit e vet KEK-ut për mbulesë financiare dhe në të kundërtën, në mungesë te mjeteve te KEK-ut, në pajtim me vlerësimin e agjensionit të lartshënuar, duhet shikohen edhe mundësit e Qeverise se Kosovës apo edhe formave tjera.

Grabovci

Ne pjese perëndimore te mihjeve ekzistuese Bardh Mirash shtrihet fshati Grabovc dhe ne afërsi te minierave gjendet lagjja e Berisheve e cila mendohet se është e ndikuar nga aktivitet minerare te Bardhit dhe Sibovcit. Komisioni Profesional duke i marr për baze te dhënat ekzistuese rreth këtyre ndikimeve ne lagjen Berishë i nxjerr këto konstatime:

1) Ne vendbanimin e Lagjes se Berisheve janë te pranishme ndotjet e mjedisit nga punimet operative minerare. Për shkak te uljeve te nivele te dy mihjeve sipërfaqësore Bardh dhe Sibovc Jug-Perëndimore gjithashtu ka të dhëna se kanë humbur ujërat nga puset e tyre. Nga ana tjetër, meqë transporti i djerrinës behet ne afërsi te lagjes Berishe dhe kohe pas kohe ekskavatorët punojnë ne drejtim te kësaj lagje, është konstatuar se është mjaft e pranishme zhurma dhe ndotja e ajrit. Duke i marr për baze këta faktor te lartshënuar për lagjen Berisha te fshatit Grabovc, komisioni profesional propozon si me poshtë:

1. Për tërë lagjen Berisha duhet të sigurohet urgjentisht furnizimi me ujë të pijes nga ujësjellësi.
2. Në aspektin e ndotjes së mjedisit nga aktivitet minerare (kryesisht mihje dhe transport) kërkohet të merren të gjitha masat nga KEK-u për zvogëlimin e ndikimit. Kjo indikon para së gjithash në përmirësimin e mirëmbajtjes së pajisjeve të punës.
3. Komisioni propozon qe te behet nje studim për vlerësimin e rrezikut të sigurisë së vendbanimit nga aktivitetet minerare.

Komisioni profesional po ashtu propozon që AKMM të merr nën monitorim këtë lagje dhe në harmoni me indikatorët e treguar, të propozoj masa adekuate.

Grupi punues profesional:

1. Nazim Hoxha, MEM, kryetar
2. Behxhet Shala, KEK, anëtar
3. Nazif Shala, KK Kastriot, anëtar
4. Hasime Qyqalla, KK Kastriot, anëtar
5. Safete Grajqevci, KK F. Kosovë, anëtar
6. Ramë Hamzaj, MMP, anëtar,
7. Besim Dobruna, MMPH, anëtar

Grabovci

Ne pjese perëndimore te mihjeve ekzistuese Bardh Mirash shtrihet fshati Grabovc dhe ne afërsi te minierave gjendet lagjja e Berisheve e cila mendohet se është e ndikuar nga aktivitet minerare te Bardhit dhe Sibovcit. Komisioni Profesional duke i marr për baze te dhënat ekzistuese rreth këtyre ndikimeve ne lagjen Berishë i nxjerr këto konstatime:

1) Ne vendbanimin e Lagjes se Berisheve janë te pranishme ndotjet e mjedisit nga punimet operative minerare. Për shkak te uljeve te nivele te dy mihjeve sipërfaqësore Bardh dhe Sibovc Jug-Perëndimore gjithashtu ka të dhëna se kanë humbur ujërat nga puset e tyre. Nga ana tjetër, meqë transporti i djerrinës behet ne afërsi te lagjes Berishe dhe kohe pas kohe ekskavatorët punojnë ne drejtim te kësaj lagje, është konstatuar se është mjaft e pranishme zhurma dhe ndotja e ajrit. Duke i marr për baze këta faktor te lartshënuar për lagjen Berisha te fshatit Grabovc, komisioni profesional propozon si me poshtë:

1. Për tërë lagjen Berisha duhet të sigurohet urgjentisht furnizimi me ujë të pijes nga ujësjellësi.
2. Në aspektin e ndotjes së mjedisit nga aktivitet minerare (kryesisht mihje dhe transport) kërkohet të merren të gjitha masat nga KEK-u për zvogëlimin e ndikimit. Kjo indikon para së gjithash në përmirësimin e mirëmbajtjes së pajisjeve të punës.
3. Komisioni propozon qe te behet nje studim për vlerësimin e rrezikut të sigurisë së vendbanimit nga aktivitetet minerare.

Komisioni profesional po ashtu propozon që AKMM të merr nën monitorim këtë lagje dhe në harmoni me indikatorët e treguar, të propozoj masa adekuate.

Grupi punues profesional:

1. Nazim Hoxha, MEM, kryetar
2. Behxhet Shala, KEK, anëtar
3. Nazif Shala, KK Kastriot, anëtar
4. Hasime Qyqalla, KK Kastriot, anëtar
5. Safete Grajqevci, KK F. Kosovë, anëtar
6. Ramë Hamzaj, MMP, anëtar,
7. Besim Dobruna, MMPH, anëtar