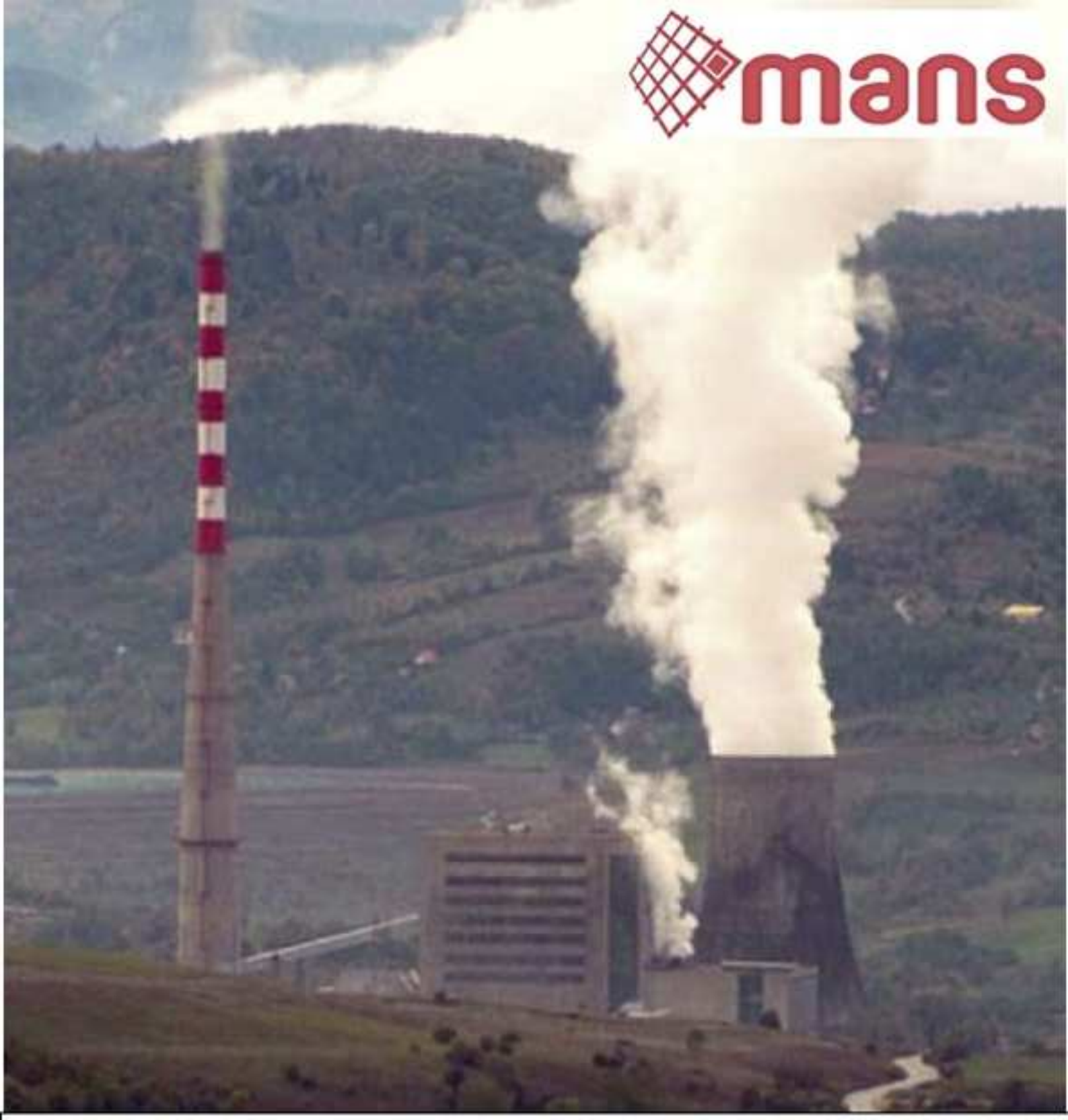


Report on (Non)Economic Viability of Construction of Unit II of the Thermal Power Plant Pljevlja

CONTENTS

1. INTRODUCTION

Montenegro's energy development, as having been presented by the Montenegrin government over recent years, provoked a number of criticisms in the public, not only in regard to the transparency of the overall procedure but specifically in regard to economic sustainability of the emerging project.

This Report examines the announcement of the construction of Unit II of the thermal power plant in Pljevlja, a project which was launched back in 2012 on the pretext that the construction of the new unit was necessary due to the deficit of electricity in the country and to further Montenegro's economic development.

The report says that the government has neither confirmed that there is a deficit of electricity in the country nor showed the economic benefits citizens could gain from the construction of a "dirty source" of energy. Actual investment costs will exceed a sum of €1 billion, not considering costs of health care and environment protection which were estimated by *Green Peace* in mid-2013to be €2.5 billion for a 40-year operation of Unit II. All of these call financial sustainability of the project into question and raise doubts that it will be an introduction a prelude to state aid into state aid.

Commercial reserves of coal from designated deposits are not sufficient for Unit II operations within the projected period of 40 years. Moreover, there is a violation of transparency of the whole process since a feasibility study on cost effectiveness of the construction of the new plant has not been published.

Report Summary:
-at present there is no electricity deficit in the country
-commercial reserves of coal from designated deposits are sufficient for Unit II operations over a 20-year period
- projected costs of coal for Unit 2are underestimated
- due to substantial loss, *Rudnik Uglja* (Coal Mine) cannot financially support the project implementation
- production cost of electricity is not realistically determined
-construction and financial costs as well as relevant investments will surpass €1 billion
-*Green Peace* estimated health care and environment protection costs at an additional €2.5 billion
- Unit II construction will not increase employment
- government guarantees should be issued for the project implementation
-project has been carried out with the violation of transparency

2. UNIT I OF THERMAL POWER PLANT PLJEVLJA

The existing Unit I of the thermal power plant in Pjevlja is the only thermal power plant in Montenegro, a country situated on the Balkan Peninsula, in southeastern Europe. Montenegro is a small country, covering an area of only 13.812 square kilometers[1], the neighboring countries are Croatia, Bosnia and Herzegovina, Serbia and Albania, while the Adriatic Sea separates it from Italy.

2.1. Description of Unit I location:

Figure 1: Existing Unit of Termal Power Plant in Pljevlja

Pljevlja is located in the north-west of Montenegro, near the border with Serbia and Bosnia and Herzegovina.[2] It is a municipality of 20.000 inhabitants, lying in the so called Pljevlja valley. Unit I is four kilometers away from the city center.[3] The existing thermal power plant is at an altitude of 760 meters and the chimney height is 252 meters, so its chimney outlet is over 1,000 meters above the sea level.Mountains surrounding Pljevlja valley are up to 2,000 meters above the sea level, which determines specific climate in the area. For this reason, without even taking into consideration additional air pollutants, the valley is barely exposed to wind currents. The area has a severe climate with a dense fog lying over the valley around 200 days a year. Variations in temperature throughout the year are significant and the heating season usually lasts eight months, i.e. from September to May. Yearly, about 70 percent of days Pljevlja valley is not exposed to wind. When winds do blow, they mainly come from the south, so pollutants from the thermal power plant drift towards the city.

A number of open-pit mines have been opened during the last two decades for Unit I production activities. Some of them are in the urban part of the town. An integral part of the existing thermal power plant is a landfill for disposal of ash and slag and the system for transportation. The landfill is situated on the site Maljevac, which is about 800 meters away from Unit I and covers an area of about 15 hectares.[4] According to official data, the landfill on Maljevac significantly affects the environment in the area through groundwater and surface water, thus endangering health of residents of the surrounding villages, since clouds of dust are raised from its surface.[5] The landfill was designed for disposal of slag and ash over a 15-year period, but has been expanded several times and currently it is at an elevation of 813 meters.

[1]Source: Wikipedia website; https://sh.wikipedia.org/wiki/Crna_Gora

[2]Source: Pljevlja Municipality website; http://www.pljevlja.me/navigacija.php?naziv=Istorija-i-kultura&IDSP=653&VerIDmeni=14

[3]Document "Analiza stanja životne sredine Opštine Pljevlja sa aspekta uticaja postojećih i planiranih tehnoloških procesa Termoelektrane u Pljevljima nakon izgradnje Drugog bloka" (Environmental Analysis of the Municipality of Pljevlja in Terms of the Impact of Current and Planned Technological Processes in the Thermal Power Plant in Pljevlja following Unit II Construction), which is a part of Baseline Studies for Detailed Spatial Plan of the Thermal Power Plant in Pljevlja and Strategic Estimate of Impacts, June 2013.

[4] 1 hectare is equivalent to 10,000 square meters

[5] Document"Analiza stanja životne sredine Opštine Pljevlja sa aspekta uticaja postojećih i planiranih tehnoloških procesa Termoelektrane u Pljevljima nakon izgradnje Drugog bloka" (Environmental Analysis of the Municipality of Pljevlja in Terms of the Impact of Current and Planned Technological Processes in the Thermal Power Plant in Pljevlja following Unit II Construction), which is a part of Baseline Studies for Detailed Spatial Plan of the Thermal Power Plant in Pljevlja and Strategic Estimate of Impacts, June 2013.

2.2. Production process and ownership of Unit I:

Thermal power plant installations in Pljevlja cover an area of 35.8 hectares.[6] The plant was originally designed as a system of two thermal plants where each has a nameplate capacity of 210MW. However, in the period from 1976 to 1982, only Unit I was constructed and at the same time over 30 percent of shared facilities and infrastructure.[7]

Unit I became operational on 21 October 1982 and the projected operation period was 25 years. During 2009 and 2010 the existing block was modernized, biotechnologically and technologically, thus increasing its nameplate capacity from 210 MW to 218.5 MW, thus prolonging its exploitation to 2025.
For electricity generation the thermal power plant uses coal from Pljevlja valley with guaranteed calorific value of 9.211 kJ/kg (220 Kcal/kg), after which solid wasteof 44 t/hof ash and 5 t/h of slug is transported by waterto the landfill in Maljevac.[8]

The owner of Unit I of the thermal power plant is a national electric enterprise *Elektroprivreda Crne Gore AD Niksic* (EPCG), a limited liability company which generates, distributes and supplies electricity.[9]
At the end of 2014 EPCG could generate electricity with the total nameplate capacity of 869.6 MW, out of which 651.1 MW was generated in hydropower plants and 218.5 MW in the thermal power plant in Pljevlja.[10]

Concerning the ownership, a majority shareholder in EPCG is the State of Montenegro, holding 57.02 percent of shares. An Italian company A2A[11] is the second largest shareholder with 41.75 percent, while the remaining 1.23 percent of shares is owned by physical and legal entities.[12] The total share capital in early autumn 2015 was €1,003,666,058.

Shareholders	Share (%)
The State of Montenegro	57.02
A2A	41.75
Others	1.23
Total shareholding capital	1,003,666,058 EUR

Table 1: Shareholding in EPCG (Source: Securities Commission)

At the end of 2009, the Italian company became one of the shareholders in EPCG by recapitalizing it, thus acquiring over 40 percent of the share capital. Introduced as a strategic partner, the Italian company got the right to manage *Elektroprivreda Crne Gore*[13] over a period of five years, with the

[6] The application for the grant of the permit for thermal power plant operation and generation of electrical and thermal energy on the site Kalusici in Pljevlja, submitted by *EPCG* to the Environmental Protection Agency No. 10-00-73594 on 26 December 2014
[7] Document""Analiza stanja životne sredine Opštine Pljevlja sa aspekta uticaja postojećih i planiranih tehnoloških procesa Termoelektrane u Pljevljima nakon izgradnje Drugog bloka" (Environmental Analysis of the Municipality of Pljevlja in Terms of the Impact of Current and Planned Technological Processes in the Thermal Power Plant in Pljevlja following Unit II Construction), which is a part of Baseline Studies for Detailed Spatial Plan of the Thermal Power Plant in Pljevlja and Strategic Impact Assessment, June 2013.
[8] Boilers are designed, manufactured and delivered by *Barnaulski Zavod*, Russia. Boiler type is BKZ 670-140-1 and it is designed for burning coal with lower heating value from 7243 to 12977 kJ/kg
[9] Link: http://www.epcg.com/
[10] Document: Reports on business operations of *Elektroprivrede Crne Gore AD Niksic* for the year 2014, March, 2015
[11] Link: http://www.a2a.eu/it/index.html
[12] Source: Securities Commission of Montenegro, last check - nine-month report of *Elektroprivreda Crne Gore* for the year 2015 http://www.scmn.me/emitenti.php?eid=207&sadrzaj=96
[13] Sales and Purchase Agreement, Share Subscription Agreement, Shareholders' Agreement, Agreement on Management regarding Selling Shares and Recapitalization of *Elektroprivreda Crne Gore*, concluded on 3 September 2009 between the State of Montenegro and *A2A S.p.A.*

possibility of becoming a majority shareholder if it met the required conditions.[14] However, within the said five-year period A2A failed to meet the requirements, whereas the whole period of its management was marked by arguments with the government of Montenegro and constant announcements of withdrawal from the public company. The agreement with A2A was officially terminated on 1 April 2015. Negotiations on continuing cooperation with A2A have been going on since autumn 2014, but were not concluded even at the end of January 2016.[15]

2.3. Unit I operating without the permit:

Pursuant to the Law on Integrated pollution prevention and control[16] (as of 2009), EPCG was required to obtain the permit[17]for Unit I operations of the thermal power plant not later than the beginning of 2015. According to official data, state energy company submitted the official application only at the end of December 2014[18] and the documents reveal that EPCG does not undertake necessary measures prescribed by law and which refer to environmental protection of the area of the thermal power plant in Pljevlja.

Thus, the wastewater generated by the thermal power plant, without any purification, go into the river Vezisnica. The quality of soil and ground water within Unit I area have never been inspected, whereas EPCG still has not developed an accident prevention plan[19], although it is bound by a number of environmental protection laws.[20]

Early in 2015, the government submitted amendments to the Law on Integrated Prevention and Control of Environmental Pollution to the Montenegrin Parliament, which extended the deadline for obtaining the permit for Unit I of the thermal power station until 1 January 2020. MANS acted on the proposed amendment[21] demanding that original time limit be respected, i.e. the beginning of 2015. Notwithstanding this, the Parliament of Montenegro adopted amendments to the Law on Integrated Prevention and Control of Environmental Pollution in the session held in May 2015,[22]which extended the deadline for obtaining the permit until 01 January 2020.

2.4. Unit I operation remain suspended for a third of its service life:

Official EPCG data show that the thermal power plant Pljevlja from its beginning in 1982 until the end of 2014, or during less than 33 years of its existence, produced 32,420 GWh of electricity. During this period, 39,963 kt of coal from Pljevlja basin was used, whereas the data suggest that Unit I worked very unreliably. Namely, when analyzing operation hours and downtime of the thermal

[14] It was agreed that a list of 20 indicators should have been met by A2A at the end of 2014; three basic indicators referred to reducing distribution losses, increasing collection of receivables and realizing profits, but the Italian company did not meet the said requirements.

[15] The article in a daily newspaper Monitor on 22 January 2016; http://www.monitor.co.me/index.php?option=com_content&view=article&id=6588:vlada-i-a2a--kako-dalje-ta-e-biti-s-kuom&catid=4528:broj-1318&Itemid=5865

[16] Official Gazette of the Republic of Montenegro No. 54/09; link: http://www.sluzbenilist.me

[17] The law requires an operator of the existing installations activities which may have negative impact on people, environment and material goods to obtain the permit not later than 1 January 2015, in accordance with the Program for harmonizing certain industries with the Law on Integrated pollution prevention and control, as well as to submit the application for acquiring the permit at least one year in advance

[18] Application for acquiring the permit for installations of the thermal power plant and for electrical and thermal power generation on the site Kalusici in Pljevlja, submitted to the Environmental Protection Agency No. 10-00-73594 on 26 December 2014byEPCG

[19] Possible accidents are: a) soil and water contamination (fuel oil leak, chemical spills or pipeline rupture), b) air pollution (failure of electrostatic precipitators, hydrogen explosion, coal dust explosion, fire in coal tanks, partial or total burst of dam at the artificial lake Otilovici or dam's stability on the landfill Maljevac)

[20] Environmental Law, Law on Nature Protection, Law on Air Protection

[21] Link: http://www.mansdemo.org/amandmani-na-predlog-zakona-o-izmjeni-zakona-o-integrisanom-sprecavanju-i-kontroli-zagadivanja-zivotne-sredine/

[22] The fifth session of the first ordinary session of the Parliament of Montenegro on 14 May 2015

power plant, it may be deduced that in less than 33 years of its existence it worked less than 20 years, while the downtime lasted for almost 12 years[23], i.e. one-third of its service life.

Year	Net generation GWh	Electricity comsumed by power plant GWh	Operation hours	Downtime	Used coal kt
1982	55	4,9	505	1223	68
1983	880	88	5442	3318	1.025
1984	1.060	102	568	3126	1.220
1985	1.240	127	6853	1907	1.479
1986	1.001	104	5499	3261	1.130
1987	1.141	118	6336	2424	1.284
1988	1.055	112	5922	2838	1.171
1989	1.000	103	5688	3072	1.143
1990	1.033	108	5935	2825	1.217
1991	1.013	116	6087	2673	1.207
1992	767	118	4777	3983	971
1993	673	57	4384	4376	939
1994	521	62	3341	5419	751
1995				8.760	
1996	836	87	4646	4114	1.031
1997	835	88	4756	4004	987
1998	955	100	5460	3300	1.330
1999	1.036	112	5831	2929	1.257
2000	1.068	114	6219	2541	1.407
2001	723	79	4075	4685	1.027
2002	1.226	125	6549	2211	1.590
2003	1.196	121	6420	2340	1.468
2004	1.067	113	5775	2985	1.377
2005	997	107	5651	3109	1.200
2006	1.201	126	6445	2315	1.382
2007	860	93	4675	4085	1.065
2008	1.289	133	6498	2262	1.636
2009	688	71	3503	5257	885
2010	1.406	135	7159	1594	1.850
2011	1.598	150	7689	1092	1.900
2012	1.367	126	6583	2201	1.703
2013	1.311	90	7187	1573	1.666
2014	1.322	94	7037	1723	1.597
TOTAL	**32.420 GWh**	**3.283,9 GWh**	**173.495 h (19,8 years)**	**103.525 h (11,8 years)**	**39.963 kt**

Table 2: Data on of Unit I electricity generation, electricity consumed by the power plant, operation hours, downtime, and coal consumption (Source: official EPCG data)

[23] Application for the grant of the permission for the operation of the thermal power plant in Pljevlja and for the process of generating electric and thermal power on the site Kalusici in Pljevlja, submitted by EPCG to the Environmental Protection Agency No. 10-00-73594 on 26 December 2014; Report on business operations of Elektroprivreda Crne Gore AD Niksic for the year 2014, March 2015 and Report on business operations of Elektroprivreda Crne Gore AD Niksic for the year 2013, May 2014

At the same time, the data show that the thermal power plant consumed 3283.9 GWh for its own work. This means that **for two and a half years** out of almost 20 years the plant have been in operation, **it produced electricity for its own use**, if we take the electricity generated in recent years as a parameter.

In relation to the total electricity produced by EPCG in 2013 and 2014, the data show that **Unit I of the thermal power plant provides about 40 percent of total electricity**. Thus, in 2013, the thermal power plant produced 1,311 GWh out of the total 3,785 GWh. In 2014 this ratio was somewhat different, primarily due to the fact that during the same year EPCG had repaired one of its hydropower plants,[24] and in 2014, EPCG generated a total of 3,014 GWh of electricity , of which 1,322 GWh was generated by the thermal power plant .

Power Plants	Generated electricity 2014 (GWh)	Generated electricity 2013 (GWh)
HE Perucica	1.006	1.333
HPP Piva	679	1.134
Small HPP	6	6
Total HPP	1.692	2.474
TPP Pljevlja	1.332	1.311
TOTAL	3.014	3.785

Table 3: EPCG electricity production for the year 2013 and 2014 (Source: EPCG)

2.5. Unknown production costs of electricity generated in Unit I:

According to the rules for calculation of electricity cost in Montenegro, the Energy Regulatory Agency[25] as an independent agency uses its methodology to determine electricity prices at regulated tariffs for the domestic sector and small and medium-sized enterprises by applying an appropriate formula, whereas one of the most important parameters for calculation is the production cost of electricity from domestic power plants.

By applying its formula, the **Energy Regulatory Agency** determined that **the price of electricity generated in domestic power plants was €36.97 per megawatt**[26]for the year 2015. Concerning the **current production cost of electricity generated in Unit I of the thermal power plant,** it remains unknown, but according to the latest publicly available EPCG's data, as of November 2013,[27] **the price of electricity from Unit I was somewhat below €50 per megawatt .**

[24] Report on business operations of Elektroprivreda Crne Gore AD Niksic for the year 2014, March, 2015
[25] Link:http://regagen.co.me/
[26] „Odluka o utvrđivanju iznosa korekcije regulatorno dozvoljenog prihoda i cijena Elektroprivredi Crne Gore AD Nikšić za operatora distibutivnog sistema broj 14/1265-16 (Resolution on Determining Correction of Regulatory Allowed Revenues and Prices to Elektroprivreda Crne Gore AD Niksic for the Operator of the Distribution System no. 14/1265-16), adopted by the Board of Directors of Energy Regulatory Agency at the session held on 3 July 2014
[27] Link:http://www.epcg.com/sites/epcg.com/files/multimedia/gallery/files/2012/03/list346.pdf

3. MONTENEGRIN GOVERNMENT LAUNCHES PROJECT ON CONSTRUCTION OF UNIT II

On the grounds that there is a power shortage in the country and that it is necessary to create conditions for heating Pljevlja, the government of Montenegro decided to develop the Detailed Spatial Plan for the thermal power plant in Pljevlja.[28] In legal terms, it was the first step towards the beginning of the construction of Unit II.

In accordance with the decision, the processors' obligations to carry out the analysis of market trends and the electricity market within the market projections and then to consider immeasurable costs and costs which are difficult to measure and use planned investments, as well as to calculate the costs of expropriation of land.

In the Decision on the Detailed Spatial Plan of the thermal power plant Pljevlja it is stated that "The construction of TPP Pljevlja – Unit II - its optimum power to be defined within the project documentation - as well as supporting facilities necessary for the operation of the existing and future unit, will significantly improve situation concerning the electricity supply in Montenegro. About 30 percent of electricity for current needs is imported. The construction of Unit II will create conditions for heating the town of Pljevlja"

3.1. EPCG makes a study on Unit II project but conceals its contents:

By the end of 2012 EPCG had already made a feasibility study on the construction of Unit II of thermal power plant, done by the consortium led by a Slovenian company ESOTECH.[29] This document was the foundation for the Detailed Spatial Draft Plan for the thermal power plant Pljevlja,[30] but the contents of the feasibility study was never available to public.

Within the same period, the Slovenian consortium developed Environmental Impact Assessment Study on the Construction of the Thermal Power Plant Pljevlja[31] for the purposes of EPCG, and by mid-2013, the Montenegrin public learned that the project was to be implemented through the international agreement. Namely, in July 2013 the government published the information[32] revealing that EPCG was able negotiate with potential investors directly without following mandatory tender procedure. Concerning this matter, EPCG was supposed to invite potential investors to bid, after which the energy company's management would evaluate and chose the most favorable one. Concurrently, a public debate on the Detailed Spatial Draft Plan for Unit II would be held. After the adoption of the planning document a contract with the chosen partner would be signed. At the end of the whole process the Parliament of Montenegro would adopt a special law on the project implementation.

This way, the mandatory tender procedure for selection of the most favorable suppliers, which is the only way to select economically and technically most favorable bid, was avoided, and EPCG was to directly negotiate the terms of Unit II construction, behind closed doors. The principle of transparency was completely violated, especially as EPCG has been refusing to publish the feasibility study justifying the construction of the new thermal power plant in Pljevlja, in order to really convince the Montenegrin citizens whether the project is in public interest and whether it will do more harm than good.[33]

[28] The decision was reached at the session of the government of Montenegro held on 17 May 2012
[29] Besides ESOTECH dd Velenje, the consortium was composed of CEE from Ljubljana, Premogovnik and Erico from Velenje
[30] TPP Pljevlja Detailed Spatial Draft Plan; Link: http://www.mrt.gov.me/rubrike/javna_rasprava/148445/Javna-rasprava-o-Nacrtu-Detaljnog-prostornog-plana-za-Termoelektranu-Pljevlja-i-Nacrtu-Izvjestaja-o-strateskoj-procjeni-uticaja.html
[31] Environmental Impact Assessment Study on the Construction of the Thermal Power Plant "Pljevlja II", consortium of the company ESOTECH dd Velenje, CEE doo Ljubljana, Premogovnik Velenje dd Velenje, ERICO Velenje doo Velenje, requested by Elektroprivreda Crne Gore AD Niksic, Novembar 2012
[32] Link: http://www.gov.me/sjednice_vlade/28
[33] In the period between 2013 and the end of 2016, based on the Law on Free Access to Information MANS requested feasibility study from EPCG, but the energy company claims it does not possess it.

4.MANIPULATIVE AND FLAT RATE ARGUMENTS CONCERNING UNIT II CONSTRUCTION

In May 2015, i.e. three years after adopting Detailed Spatial Draft Plan (DSP) for the thermal power plant and Strategic Estimate of Impact on the Environment, the government organized a public debate about the planning documents[34]. That same month a public forum[35], summoning over 100 locals, was organized in Pljevlja.

During the public debate the government of Montenegro again severely violated the transparency of the whole procedure since it did not published the supporting documents which laid the framework for the planning documents, especially when it comes to economic efficiency of Unit II.

4.1.Electricity deficit as the main alibi for construction of Unit II

The major argument for construction of the new thermal power plant in Pljevlja, which was presented in the Draft DSP, was electricity deficit in the country. However, the estimate of the deficit was based on the data from 2012, which included *Kombinat aluminijuma Podgorica* (Podgorica Aluminum Plant) as the largest consumer of electricity in the country, which annually consumed almost one-third of the total produced electricity in the recent years.

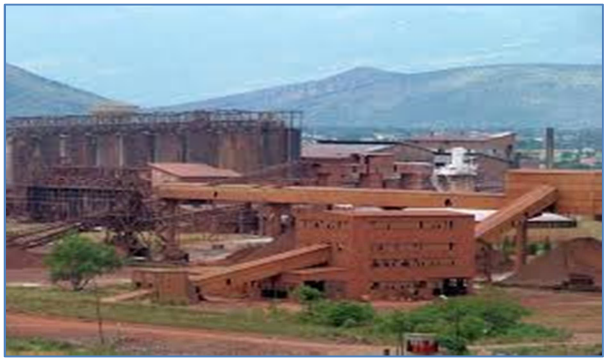


Figure 2: Kombinat aluminijuma Podgorica the cause of the deficit

Since Podgorica aluminum plant is no longer a state-owned company but a private one, its owner is bound to provide electricity for its operation in the market.[36] This obligation was laid down earlier by the Energy Law, which entered into force in 2010,[37] defining that so-called big consumers were obliged to purchase electricity on the free market starting from the year 2012. Since the factory is old, at the end of its service life, the government did not take into account the possibility of closing down the aluminum factory when calculating the deficit of electricity. Moreover, the data from the Energy Balance of Montenegro for 2013[38] and 2014[39] have shown that there was no deficit of electricity[40] in the country, which was supported by official documents of EPCG,[41] which has been exporting electricity to the international market in recent years, reaping the profit.[42] In relation to this, it should be pointed out that the Draft DSP does not include estimates of electricity that would be generated in so-called renewable energy sources, which should be built in the years to come[43] (two large wind farms and dozens of small hydropower plants). The front shows that the estimates

[34] Link:http://www.mrt.gov.me/rubrike/javna_rasprava/148445/Javna-rasprava-o-Nacrtu-Detaljnog-prostornog-plana-za-Termoelektranu-Pljevlja-i-Nacrtu-Izvjestaja-o-strateskoj-procjeni-uticaja.html

[35] Link: http://www.vijesti.me/vijesti/pljevljaci-nece-drugi-blok-te-bez-toplifikacije-835408

[36] Internet page (http://www.kap.me) Kombinat aluminijuma Podgorica was suspended at the end of 2015

[37] Official Gazette of the Republic of Montenegro No 28/10; link: http://www.sluzbenilist.me

[38] Document: Energy Balance of Montenegro for 2013 link:http://www.minekon.gov.me/organizacija/energetika/118704/Energetski-bilans-Crne-Gore-za-2013-godinu-sa-zakljuccima.html

[39] Document: Energy Balance of Montenegro for 2014

[40] For 2013, the deficit was shown to be as small as 157 GWh, but EPCG official data show that during the same year the company produced a surplus in electricity generation; electricity deficit for 2014 was shown to be 316 GWh

[41] Documents: „Izvještaj o poslovanju Elektroprivrede Crne Gore AD Nikšić za 2013. godinu“ (Report on Business Operations of Elektroprivreda Crne Gore AD Niksic for the year 2013), May 2014; „Izvještaj o poslovanju Elektroprivrede Crne Gore AD Nikšić za 2014. godinu“ (Report on business operations of Elektroprivreda Crne Gore AD Niksic for the year 2014), March 2015

[42] MANS Investigation Center has revealed earlier that in the period between August 2013 and August 2014 EPCG generated more electricity than needed and had a surplus of 900,000 MWh, worth at least €34 million at factory price

[43] Link: http://www.oie-res.me/

of the deficit of electricity in the draft DSP have been made on the basis of outdated and unrealistic parameters of the real needs and consumption in the country.

The said shows that the estimate of the deficit from the Draft DSP was made on the grounds of obsolete and unrealistic parameters regarding actual electricity needs and consumption.

4.2. Commercial coal reserves sufficient for Unit II operations over a 20-year period

The project of constructing Unit II of the thermal power plant in Pljevlja is based on the exploitation of all coal reserves from the so-called "inner Pljevlja basin".[44] A state-owned company *Rudnik Uglja Pljevlja*[45]mines coal in Pljevlja, on the basis of concessions granted from the state. It is a joint stock company with a capital of €21,492,990,[46] whereas most of the coal produced is delivered to the thermal power plant by EPCG.

The largest single shareholder in the company is the Italian company A2A (strategic partner in EPCG), which has a 39.4 percent stake, and the second biggest shareholder is the State of Montenegro with 31.1 percent. The remainder of 29.8 percent belongs to physical and legal entities, whereas the single largest shareholder with a 11.8 percent stake is Aco Djukanovic,[47] a brother of the Montenegrin prime minister Milo Djukanovic.

4.2.1. Categories of exploitable and unexploitable coal reserves

In the Energy Development Strategy of Montenegro which covers the period until 2025[48] (which was adopted in 2006) it is stated that the lignite coal from Pljevlja deposits is produced by surface mining operations, and that it is relatively low in calorific value, which is the reason why the majority of coal is exploited in the vicinity of deposits, since the transport over long distances would be economically inefficient.

BASIC CATEGORIESOF COAL RESERVES	
Category A	Validated
Category B	Explored
Category C1	Not fully explored

Table 4: Basic categories of coal based on the degree of exploration

It is also outlined in the Strategy that based on the degree of exploration there are the following main categories of coal in Montenegro: explored geological coal reserves – validated (A), explored (B) and not fully explored (C1).

4.2.2. Coal in four deposits commercially inefficient

In the Pljevlja municipality coal reserves are located in the so-called “inner Pljevlja basin”, which is in the vicinity of the urban area, and on the site Maoce, 20 kilometers away from the town.

As previously pointed out, the project of Unit II construction is based on the exploitation of all coal reserves from the "inner Pljevlja basin", which includes the following deposits: Potrlica, Kalusici, Grevo, Rabitlje, Komini, Glisnica, Bakrenjace, Otilovici and Mataruge (coal deposit Mataruge is not

[44] Detailed Spatial Draft Plan for the thermal power plant Pljevlja; link:http://www.mrt.gov.me/rubrike/javna_rasprava/148445/Javna-rasprava-o-Nacrtu-Detaljnog-prostornog-plana-za-Termoelektranu-Pljevlja-i-Nacrtu-Izvjestaja-o-strateskoj-procjeni-uticaja.html

[45] Link: http://www.rupv.me/

[46] Source: Securities Commission of Montenegro, last check - nine-month report of *Elektroprivreda Crne Gore* for the year 2015 http://www.scmn.me/emitenti.php?eid=207&sadrzaj=96

[47] Source: Website of the Central Depository Agency, 10 major shareholders, last search December 2015; http://www.cda.me/ME/Stranice/Naslovna.aspx

[48] Document „Strategija razvoja energetike Crne Gore do 2025. godine“ (Energy Development Strategy of Montenegro by 2015); „Stručne osnove, knjiga C, Razvoj sistema uglja, nafte i gasa Crne Gore“ (Professional Basis, Book C, Development of Coal, Oil and Gas Systems), July 2006, Ljubljana, by the Energy Institute Hrvoje Pozar and the Institute for Research in Energy, Ecology and Technology; http://www.mek.gov.me/biblioteka/strategije?pagerIndex=2

near the town center, but it is included in the total reserves of coal, since *Rudnik uglja* has been granted the concession for its exploitation). The Energy Development Strategy of Montenegro by 2025 has shown that coal reserves in deposits Grevo, Rabitlje and Komini should be considered as off-balance sheet, due to uncertainty of exploitation. In this sense, it is further explained that the deposit Grevo has an external landfill formed for the purpose of disposal of overburden from the open pit Potrlica, the deposit Komini is packed with housings and industrial facilities, while the deposit Rabitlje in terms of techno- economic conditions is unfavorable for surface and underground coal mining.

In mid-2014 the government of Montenegro developed the Energy Development Strategy by 2030,[49] replacing the earlier one. The latest document relies on findings from the Fichtner study[50] from 2009, which added another economically unexploitable deposit. Namely, the study reports that the deposits Kalusici, Grevo, Komini and Rabitlje are economically unexpoitable mines that should not be a part of any coal reserves scenario on which a future energy production will be based. Concerning that matter, it is indicated that the coal in the deposit Kalusici is low in calorific value and the area is densely populated. Therefore, sustainable funds would be required for the resettlement of the population. In accordance with the Law on Free Access to Information, MANS acquired the baseline studies[51]which were developed in mid-2013 and used as a basis for drafting the DSP for Unit II of the thermal power station. The baseline studies show that mining reserves in the deposits from ”inner Pljevlja basin”, without deposits Mataruge, were estimated at 65.7 million tons. When added to the estimates of coal from one of the said deposit, they amounted to 73 million tons. However, the government’s Draft DSP has provided completely different data on mining reserves in the "inner Pljevlja basin", showing much greater quantities - 84.3 million tons, thus manipulating public information and hiding actual data on coal reserves.

Exploitable/ Unexploitable deposit	Deposit name	Mining reserves according to baseline studies	Mining reserves according to draft DSP
Unexploitable mine	Kalusici	12,866,382	15,799,500
Unexploitable mine	Grevo	2,054,430	2,281,807
Unexploitable mine	Rabitlje	4,822,525	5,358,231
Unexploitable mine	Komini	2.714.909	3,016,566
Exploitable mine	Potrlica sa Cementarom	36,858,366	43,274,519
Exploitable mine	Sumani	687,528	
Exploitable mine	Glisnica	1,500,000	1,786,410
Exploitable mine	Bakrenjace	1,199,082	1,398,929
Exploitable mine	Otilovici	3,078,900	3,592,310
Exploitable mine	Mataruge		7,875,000
	TOTAL	**65,782,122**	**84,383,272**
	TOTAL with Mataruge	**73,657,122**	

Table5: Various data on mining reserves of coal (Source: Data form draft DSP and Baseline Studies)

[49] Document the Energy Development Strategy of Montenegro by 2030, May 2014; http://www.mek.gov.me/biblioteka/strategije

[50] MANS requested Fichtner’s study from the Ministry of Economy of Montenegro in accordance with the Law on Free Access to Information. As the Ministry refused to deliver it, an appeal has been lodged to the competent authority of the second instance

[51] Document “Analiza stanja životne sredine Opštine Pljevlja sa aspekta uticaja postojećih i planiranih tehnoloških procesa Termoelektrane u Pljevljima nakon izgradnje Drugog bloka” (Environmental Analysis of the Municipality of Pljevlja in terms of the Impact of Current and Planned Technological Processes in the Thermal Power Plant in Pljevlja following Unit II Construction), which is a part of Baseline Studies for Detailed Spatial Plan of the Thermal Power Plant in Pljevlja and Strategic Estimate of Impacts, June 2013, requested by *Rudnik uglja Pljevlja*

Hence, **the total reserves of coal in deposits which are economically unexploitable (Kalusici, Grevo, Komini and Rabitlje) amount to 22.4 million tons**. Moreover, it is important to mention that the MANS came into possession of the document of the municipality of Pljevlja, which indicates that near the Otilovici deposit (coal reserves are estimated at three million tons) is a water source for supplying the town of Pljevlja, and the local government believes that the mine in Otilovici could endanger the water supply.[52]

If economically unexploitable, coal reserves of 22.4 million tons are subtracted from the overall amount of coal reserves shown in the Baseline Studies, it concluded that **commercial coal reserves are 51.1 million tons.** However, given that the Baseline Study is developed in mid-2013, and that the existing Unit I during 2013 and 2014 spent an additional 3.2 million tons,[53] economically viable reserves at the end of 2014 are even smaller and amount to 47.9 million tons.

Overall reserves in according to Baseline Studies	Economically unexploitable coal reserves	Unit I consumption in 2013 and 2014	Actual economically exploitable coal reserves at the end of 2014
73,657,122 tons	22,458,246 tons	3,263,020 tons	**47,935,856 tons**

Table 6: Commercial reserves of coal in the inner Pljevlja basin are approximately 47.9 million

Concerning the estimates of coal reserves, it should be pointed out that *Rudnik uglja Pljevlja* has not invested any substantial funds in geological research in recent years, which would lay groundwork for gathering more relevant information about the mining coal reserves.

Namely, pursuant to the Law on Free Access to Information, MANS has acquired coal mine programs on geological, hydrogeological and engineering research of coal in Pljevlja deposits for the period from 2009 to 2015.[54]The programs contain only few pages, and do not state the specific research locations.

It is, however, openly admitted that the exploration was not conducted professionally and in accordance with applicable regulations and science. The information that only €2.4 million has been allocated a for coal research/exploration purposes for a 7-year period, indicates that Pljevlja-based company does not invest in it..

YEAR	2009	2010	2011	2012	2013	2014	2015
AMOUNT/Eur	255,756	273,613	273,613	273,613	449,680	449,680	425,250

Table 7: Less than half a million set aside for coal exploration by Rudnik uglja per annum

MANS does not possess information whether the allocated sum was actually invested into exploration of coal reserves.

[52] Comments submitted by the Municipality of Pljevlja to the Ministry of Economy on 26 February 2015, during the public debate concerning the Concession Act for Otilovici deposit

[53] Documents: Report on Business Operations of Elektroprivreda Crne Gore AD Niksic for 2013, May 2014; Report on Business Operations of Elektroprivreda Crne Gore AD Niksic for 2014, March 2015

[54] Programs of geological, hydrogeological and engineering research of coal for 2015 (from 2 February 2015), for 2014 (from 31 January 2014), for 2013 (from 27 February 2013), for 2012 (from 30 March 2012), for 2011 (from 10 March 2011), for 2010 (from 15 March 2010), for 2009 (from 15 March 2009), which Rudnik uglja AD Pljevlja submitted to the Ministry of Economy

4.2.3. Coal reserves insufficient for the 40-year operation of the Unit II

In the Environmental Impact Assessment Study on the Construction of Unit II, which was made for the needs of EPCG at the end of 2012, it is stated that the 220 MW power of Unit II is the optimum value for the unit size, taking into consideration available coal reserves of the "inner Pljevlja basin".[55] The baseline studies[56] underline the same - the 220 MW power of Unit II is the optimum value for the unit size, taking into consideration available coal reserves of the "inner Pljevlja basin".

The draft DSP for the power plant Pljevlja it is envisaged that Unit I will be operative until the end of 2023, while Unit II will be operative for 40 years in order to pay off the investment. The new unit should have the power of 220 MW.

The first unit has the power of 218.5 MW and the official EPCG data, taken from their business reports[57]show that the average coal consumption from 2010 to 2015 was 1.7 million tons a year, which means that in nine years, i.e. by the end of 2013, 15.6 million tons of coal will have been consumed.

Year	Gross nameplate capacity (MW)	Production GWh	Coal consumption (t)
2014	218.5	1,322	1,597,020
2013	218.5	1,311	1,666,000
2012	218.5	1,245	1,703,000
2011	218.5	1,452	1,900,410
2010	218.5	1,271	1,849,439
		Average annual consumption	**1,743,173**

Table 8: Unit I of the power plant consumes annually €1.7 million on the average

Regarding the projection of the coal consumption in Unit II, the Draft DSP[58] provided input for a 220 MW unit, which is expected to be producing 1,406 GWh of electricity per year and consuming 1.3 million tons of coal. At the end of April 2015,[59] EPCG selected as the most favorable the offer to construct Unit II made by a Czech company *Skoda Praha,* which suggested to build a 254 MW unit that would produce 1,600 GWh of electricity per year.[60] It means that the annual coal consumption of a 254 MW unit would be 1.6 million tons, or 64.3 million tons for 40 years of operation.

Unit power	**220 MW**	**254 MW**
Annual electricity production	1,406 GWh	1,600 GWh
Annual coal consumption	1,393,829 t	1,609,239 t
Coal consumption for 40 years	55,753,160 t	64,369,560 t

Table 9: A 254 MW unit consumes a considerably larger amount of coal

[55] Environmental Impact Assessment Study on the Construction of the Thermal Power Plant "Pljevlja II", consortium of the company ESOTECH dd Velenje, CEE doo Ljubljana, Premogovnik Velenje dd Velenje, ERICO Velenje doo Velenje, requested by Elektroprivreda Crne Gore AD Niksic, November 2012

[56] Document „Značajni socio-ekološki aspekti izgradnje Drugog bloka Termoelektrane Pljevlja" (Significant Socio-Ecological Aspects of Construction of Unit II of thermal power plant Pljevlja), by Predrag Sekulic, representative of the ruling Democratic Party of Socialists. The document is a part of Baseline Studies for the Detailed Spatial Plan of the Thermal Power Plant in Pljevlja and Strategic Impact Assessment, June 2013

[57] Reports on Business Operations of EPCG for the years 2014, 2013, 2012, 2011 and 2010

[58] Detailed Spatial Draft Plan of the power plant Pljevlja;
Link:http://www.mrt.gov.me/rubrike/javna_rasprava/148445/Javna-rasprava-o-Nacrtu-Detaljnog-prostornog-plana-za-Termoelektranu-Pljevlja-i-Nacrtu-Izvjestaja-o-strateskoj-procjeni-uticaja.html

[59] Link:http://www.seebiz.eu/skoda-praha-dostavila-najpovoljniju-ponudu-za-drugi-blok-te-pljevlja/ar-110746/

[60] Minutes of the public opening of bids for construction of Unit II of thermal power plant no. 10-00-18024, dated 27 March 2015

Given that the commercial coal reserves are 47.9 million tons and that Unit I will consume 15.6 million tons by the end of its life, it is clear that **Unit II will have only 32.2 million tons at disposal, which is sufficient for 20 years of operation**. Even if the unprofitable coal reserves were taken into consideration, it would still not be enough for the 40-year operation of Unit II, but only for 36 years.

Actual commercial coal reserves	Consumption of Unit I by 2023	Leftover coal reserves for Unit II operation	Reserves for Unit II operation in years
47,935,856 t	15,688,557 t	32,247,299 t	20 years

Table 10: Commercial coal reserves for Unit II sufficient for 20-year operation

The only solution for providing additional coal reserves would be to open Maoce deposit, which would incur additional costs, due to the considerable distance and large transportation costs.

4.2.4. Financial capacity of *Rudnik Uglja* to carry out the Unit II project comes into question

The analysis of financial reports of *Rudnik Uglja*, carried out by MANS, shows that the company is suffering huge financial losses and **it cannot support pit opening necessary for Unit II operation on its own, which makes space for state aid**.

Rudnik Uglja should invest €230 million into opening new pits and mine rehabilitation until the end of Unit I and Unit II operation. The government estimated investment costs for opening new pits at €145 million.[61] *Rudnik uglja* did not take into account costs of mine rehabilitation after the closure of mines, although it is prescribed by the Mining Law. Yet, the documents in possession of MANS Investigation Center[62] show that in 2010 *Rudnik uglja* calculated costs of rehabilitation of the mine Potrlica at €1.17 per ton of coal. According to the baseline studies[63], which were used as a basis for drafting the DSP, mining reserves in new mines amount to 73 million tons, which means that the costs of rehabilitation would be over €85 million and at the expense of *Rudnik uglja.*

Business reports of Pljevlja-based company[64] say that it has accumulated losses, owes debts to the state and has been surviving over years due to the loans guaranteed by EPCG. Thus, at the end of 2014, *Rudnik uglja* had long-term loans totaling around €8 million, with the maturity of over a year, while short-term dues of the company amounted to €40 million. Over €26 million of the sum was for taxes and other public revenue.

In the latest Energy Law,[65] the government of Montenegro defines the coal exploitation for the purpose of electricity production as a public interest activity.

Having in mind that the Law on State Aid Control[66] allows state aid (subsidies, tax exemptions, debt write-offs, etc.) for public interest activities, it is obvious that this is a way of providing a certain state aid for coal production necessary for the operation of Unit II of the thermal power plant.

[61]Document „Tehno ekonomska procjena termoenergetskog potencijala za snabdijevanje ugljem Drugog bloka Termoelektrane“ (Techno-Economic Assessment of Thermo-Energetic Potential for Coal Supply of Unit II of the Thermal Power Plant)
[62]Approval of the Environmental Protection Agency and the Assessment Study on the Environmental Impact of Coal Exploitation at the open pit Potrlica (including north-west deposit in the zone of former cement factory)for the period 2010-2014, from 31 May 2010
[63]Document “Analiza stanja životne sredine Opštine Pljevlja sa aspekta uticaja postojećih i planiranih tehnoloških procesa Termoelektrane u Pljevljima nakon izgradnje Drugog bloka“ (Environmental Analysis of the Municipality of Pljevlja in Terms of the Impact of Current and Planned Technological Processes in the Thermal Power Plant in Pljevlja following Unit II Construction), which is a part of Baseline Studies for Detailed Spatial Plan of the Thermal Power Plant in Pljevlja and Strategic Estimate of Impacts, June 2013
[64]Auditor's Report for Rudnik ugllja AD Pljevlja for 2013 and 2014, published on Securities Commission website; http://www.scmn.me/emitenti.php?eid=631&sadrzaj=96
[65]Energy Law of Montenegro, published in the Official Gazette no. 5/2016; link: http://www.sluzbenilist.me
[66]Law on State Aid Control (Official Gazette of Montenegro No. 74/09 and 57/11);

4.2.5. The price of coal from Pljevlja mines negotiated between EPCG and Rudnik Uglja

EPCG and *Rudnik uglja Pljevlja* signed the agreement on coal sale[67] at the end of 2009, determining the price of coal over a three-year period at **€25.65 per ton of coal with a guaranteed average lower heating value of9,211 kJ/kg (2.7 E/GJ)**.

In determining the said price of coal, the contracting parties referred to the decision of the Energy Regulatory Agency, where it was defined that coal prices would be applied depending on the lower heating value in accordance to the following scale:

KJ/kg	KJ/kg	%	%
8,000	8,399	86.85	91.18
8,400	8,799	91.20	95.53
8,800	9,210	95.54	99.99
9.211	**9.599**	**100**	**104,21**
9.600	9.999	104,22	108,55
10.000	10.399	108,57	112,90
10.400	10.799	112,91	117,24

Table 11: Only part of the scale on agreed prices in regard to the coal heating value is shown

The above table shows that EPCG pays coal to *Rudnik uglja* at the price which correlates with its calorific value. That means that the higher calorific value of coal, the higher the price. After the expiry of the three-year term, EPCG and the *Rudnik uglja* signed a new agreement and annexes to the agreement,[68] keeping the base price of €25.65 for coal of the guaranteed lower average calorific value of 9,211 kcal/kg.

The financial statements of *Rudnik uglja Pljevlja* for 2011, 2012, 2013 and 2014[69] show that during 2011, the average realized selling price of coal for the purpose of the thermal power station amounted to €25.65 per ton, in 2012 it was €24.60 per ton, in 2013 it amounted to €25.32, and in 2014 it was €26 per ton. It is concluded that during this period the coal of average guaranteed calorific value of 9,211 kJ/kg was delivered to Unit I of the thermal power plant.

However, based on the Law on Free Access to Information MANS requested from EPCG all monthly reports on coal delivery from Pljevlja mining company for 2014 and 2015, in order to accurately determine the quality of the delivered coal and its price. The documents were not submitted until the beginning of 2016.

4.2.6. Suggestive projected coal price for Unit II

The draft DSP for the thermal power plant, the section of the document entitled "Economic and Market Outlook"[70], says that a projected coal price for Unit II per ton of coal with **the calorific value of 9,560 kcal / kg (2.1 U / Gj) is €20.08.** The document does not contain more data on the basis of

[67] Agreement on Coal Sale for the period 1 January 2010 – 31 December 2013, from 31 December 2009, which was concluded between *Rudnik uglja* AD Pljevlja and EPCG AD Niksic

[68] Coal Purchase and Sale Agreement August 2014; Annex II, December 2014; Annex III, March 2015

[69] Auditor's Report for Rudnik ugllja AD Pljevlja for 2011, 2012, 2013 and 2014 published on Securities Commission website;http://www.scmn.me/emitenti.php?eid=631&sadrzaj=96

[70] Economic and Market Projection has seven pages only with incomplete data on calculating prices of coal and electricity in the future thermal power plant

which it could be determined how the price was calculated. However, when the projected price is compared with the current price that is agreed between the EPCG and *Rudnika uglja*, where coal of lower calorific value is paid at higher price, it appears that the within the draft DSP –the price is significantly undervalued and it would actually be €**26.62 per ton of coal with calorific value of 9,560 kcal / kg.**

	Guaranteed calorific value of coal	Coal price per ton
Current price	**9,211 kJ/kg**	**€25.65**
Government's projection for Unit II	**9,560 kJ/kg**	**€20.08**

Table 12: Discrepancy between the current price of coal and the government's projection for Unit II

Having in mind such an unrealistically determined price of coal within the draft DSP, it has been estimate that total annual operating costs of Unit II of the thermal power plant with a nameplate capacity of 220 MW amount to €53.9 million, but **in fact they are higher by at least 10 million euros** (note: higher cost of coal estimate is taken into account). In this regard, it is clear that **the production cost of electricity in Unit II, which is shown to be €42.1 per megawatt, is not realistic.**

4.3. Unit II investment costs will exceed €1 billion

The draft DSP has not shown a series of costs which would be created if the project of Unit II construction in Pljevlja is implemented. Below are separately shown the said costs presented by the government and the cost which were not taken into account, but which could objectively be expected.

4.3.1. The government has only shown costs of Unit II construction

Within the draft DSP,[71] the government has shown only costs of construction of a new energy facility, while it calculated with the investment of €366 million for the unit with the nameplate capacity of 220 MW. It has been estimated that the equipment and installation would be the most expensive- around €270 million, whereas the construction works cost €50 million.

Tabela : Dinamika investicionih ulaganja (u 000€)

	2013	2014	2015	2016	2017	2018	Ukupno
Pripremni radovi		1.000					1.000
Građevinski radovi		5.759	23.993	14.542,6	5.997,2		50.292
Oprema sa montažom		34.223,6	87.684,1	105.719,7	26.413,2	16.166,4	270.207
Ostalo	420	2.531,5	6.343,2	13.368,1	15.296,2	4.962,7	42.921
Tobs						2.189,0	2.189
UKUPNO		43.514,1	118.020,3	133.630,6	47.706,6	23.318,1	366.609

Izvor: EPCG "Informacija o projektu "TE Pljevlja II"

Figure 3: Investement cost according to the draft DSP

[71] The draft of the Detailed Spatial Plan of the thermal power plant Pljevlja; link:http://www.mrt.gov.me/rubrike/javna_rasprava/148445/Javna-rasprava-o-Nacrtu-Detaljnog-prostornog-plana-za-Termoelektranu-Pljevlja-i-Nacrtu-Izvjestaja-o-strateskoj-procjeni-uticaja.html

Concerning funding means, the draft of the DSP notes that the EPCG allocated €109 million from its own funds and the remaining €256 million would be provided through loans. The document also indicates that the construction works and most of the remaining affairs can be realized by engaging local companies on the territory of Montenegro.

4.3.2. Costs not presented by the government worth hundreds of millions of euros

Even though on many occasions the draft DSP notes activities which will, besides the construction of Unit II, accompany the project implementation, in the Economic and Market Projection summary these costs are not mentioned despite the fact that the Decision on Drafting Detailed Spatial Plan has been clear about taking into account unmeasurable costs and costs which are difficult to measure and benefits of planned investments.

Also, it is necessary to calculate the costs of expropriation of land on which Unit II is to be constructed. Since the construction of Unit II has been envisaged to be partially funded through a loan, it is necessary to calculate interest cost, which is estimated to be €100 million.[72]

Additionally, along with the implementation of the project of constructing Unit II of the thermal power plant, new mines will be opened, and according to the government's information they are worth €145 million,[73] whereas mine rehabilitation costs are expected to be additional 85 million[74] (see page 12).

Furthermore, since it has been planned that the existing Unit I of the thermal power plant is operational until 2023, and in order to fulfill strict conditions in terms of environmental protection required by the European Union, significant funds estimated at €100 million must be allocated for its reconstruction[75].

Also projected costs for closing of Maljevac landfill amount €4 million,[76] while the minimum carbon dioxide emission costs (CO2) for a 40-year period of Unit II operations have been estimated at €264 million.[77]

Namely, it is expected that the European Union will introduce an emissions trading system or some other system such as taxes, covering costs of CO2 emissions, and projected cost of the new unit in Pljevlja in accordance with this would range from €6.6 million to €39.8 million per annum for the installation with a nameplate capacity of 220 MW.

The government has not taken into account the said cost, neither costs of health care and environment protection, costs of expropriation of land, then expenditures concerning electrical and energy infrastructure and new landfill for ash and slug disposal , building coal waste disposal site and rehabilitation costs of Borovicko jezero.

[72] The Detailed Spatial Draft Plan of the thermal power plant Pljevlja;
link :http://www.mrt.gov.me/rubrike/javna_rasprava/148445/Javna-rasprava-o-Nacrtu-Detaljnog-prostornog-plana-za-Termoelektranu-Pljevlja-i-Nacrtu-Izvjestaja-o-strateskoj-procjeni-uticaja.html
[73] Link: http://www.gov.me/sjednice_vlade/28
[74] The assent of the Environmental Protection Agency and Environmental Impact Assessment Study on coal mining in the open pit Potrlica (including a north-east part of the deposit on the site of the former cement factory) for the period from 2010 to 2014, from 31 May 2010
[75] Strategic Development Plan of the Municipality of Pljevlja 2013 – 2018, August 2013.
[76] "Information of the Government of Montenegro on the Results of Negotiations with the International Bank for Reconstruction and Development for the Project "The Industrial Waste Management and Cleanup Project of Montenegro" from 31 July 2014;http://www.gov.me/sjednice_vlade/78
[77] Link: http://www.vijesti.me/vijesti/green-home-koliko-ce-iznositi-troskovi-emisija-co2-iz-drugog-bloka-te-pljevlja-823442

Investment	The government's cost projection	Projected cost	Unknown costs
Unit II construction	**366 million**	**366 million**	
Loan interests		**100 million**	
Unit I reconstruction		**100 million**	
Opening new mines		**145 million**	
Mine rehabilitation		**85 million**	
Landfill Maljevac closing costs		**4 million**	
Emission CO2[78] costs		**264 million**	
Health care costs			**?**
Environment protection costs			**?**
Land expropriation costs			**?**
Energy infrastructure construction			**?**
Landfill for ash and slug construction			**?**
Ore waste disposal site			**?**
Rehabilitation of Borovicko jezero			**?**
Rehabilitation of Unit II after 25 years of operation			**?**
OVERALL	**366 million**	**1,064 billion**	

Table 13: Projected costs of Unit II exceed €1 billion

Although it is estimated that the construction of Unit II of the thermal power plant in Pljevlja will lead to huge total costs, which are likely to exceed one €1 billion, the government of did not presented tocitizens of Montenegroany specific benefits from the construction of the energy facility that will have enormous consequences to human health, the environment, but also the state budget, since the majority ofEPCG shares are state-owned. In this regard, the citizens are not informed whether the construction of the new energy facility couldin any way ahave positive impact on the reduction of electricity prices , which would be paid in the years to come , and whether the sustainability of the project will be also financed through a state aid.

This is even more true since the State of Montenegro has already consciously given up certain revenues that could be generated from the construction of energy facilities. Namely, at the beginning of 2015, the Montenegrin Parliament adopted amendments to the Law on Value Added Tax[79] , whichbrought in an exemptionfrom paying Value Added Taxon the import of the equipment for energy facilities for the production of electricity. In practice, this means that the complete equipment for Unit II of the thermal power plant will be exempt from Value Added Tax, which is 19 percent in Montenegro.

4.3.3. *Greenpeace* estimates health care and environmental costs at €2.5 billion

In mid-2013 an international non-governmental organization *Greenpeace*, in cooperation with the German University in Stuttgart, investigated the health impacts of each of the 300 operating power plants in the European Union, as well as the predicted impact of the 50 new projects if carried out.[80]

[78] Lowest cost projections; this cost could reach a whopping sum of €1.4 billion
[79] The Law on Amendments to the Law on Value Added Tax, Official Gazette of the Republic of Montenegro No. 9/15;http://www.sluzbenilist.me/PravniAktDetalji.aspx?tag={1AF91BFB-209F-4028-BB17-77B247513FD5}
[80] Link: http://www.greenpeace.org/international/en/publications/Campaign-reports/Climate-Reports/Silent-Killers/

Using a sophisticated health impact assessment model, the report estimates that pollution from coal-fired power plants in the EU result in thousands of premature deaths.

Using the same methods and for the needs of the Montenegrin non-governmental organization *Green Home, Greenpeace* estimated the number of premature deaths, and health and environmental costs the of Unit II of the thermal power plant in Pljevlja , all based on the technical parameters of the government of Montenegro and the unit with the nameplate capacity of 220 MW.[81]

The projection showed that Unit II could cause **16 premature deaths per year**, or 622 premature deaths for 40 years of operation of the thermal power plant in Pljevlja. At the same time, social costs, costs of treatment and environmental protection are estimated at **75 million per year,** or **€2.5 billion for 40 years of operation of Unit II in Pljevlja**.

NUMBER OF PREMATURE DEATHS	HEALTH AND ENVIRONMENTAL COSTS
622	**€2.5 billion**

Table 14: Greenpeace projection for Unit II of the thermal power plant in Pljevlja

4.4. Unit II will not create new employment opportunities

According to official EPCG data,[82] at the end of 2014 Unit I of the thermal power plant employed a workforce of 207. The draft DSP[83] specifies that in 2010 Unit I provided employment for 333 workers, but recently the number has dropped significantly.

YEAR	2010	2014
Number of employees in Unit I	**333**	**207**

Table 15: A drop in numbers of employees in Unit I over recent years

In the same document, it is estimated that Unit II of the thermal power plant will employ up to 100 workers due to the fact that a more up-to-date equipment would be installed, which would require smaller number of technically skilled and highly qualified staff.

Unit II will provide employment for less than 100 workers

More favorable employment effects can only be expected during the construction of Unit II of the thermal power plant in Pljevlja, for which local construction companies will be hired.

[81] Linkhttp://www.greenhome.co.me/fajlovi/greenhome/attach_fajlovi/lat/glavne-stranice/2014/11/pdf/Analiza_uticaja_TE_Pljevlja_sa_predikcijom_uticaja_drugog_bloka_TE_na_zdravlje.pdf

[82] The application for the grant of the permit for thermal power plant operation and generation of electrical and thermal energy on the site Kalusici in Pljevlja, submitted by EPCG to the Environmental Protection Agency No. 10-00-73594 on 26 December 2014

[83] The draft of the Detailed Spatial Plan of the thermal power plant Pljevlja; link:http://www.mrt.gov.me/rubrike/javna_rasprava/148445/Javna-rasprava-o-Nacrtu-Detaljnog-prostornog-plana-za-Termoelektranu-Pljevlja-i-Nacrtu-Izvjestaja-o-strateskoj-procjeni-uticaja.html

5. BID OF THE CZECH COMPANY *SKODA PRAHA*

Without following mandatory tender procedure and directly negotiating with potential bidders, at the end of April 2015, EPCG accepted the bid for construction of Unit II of the thermal power plant in Pljevlja submitted by *Skoda Praha* as the most favorable one.[84]

After a legal battle going on for months before the Agency for the Protection of Personal Data and the Free Access to Information,[85] *M*ANS has managed to get possession of the original bid the company *Skoda Praha*, submitted by EPCG in March 2015.[86]

5.1. *Skoda Praha* requires loan guarantees

As it can be seen from the offer, the basic concept that advocates the realization of the Unit II construction project is the so-called strategic partnership model, under which a separate company would be established to run the future power plant. In this newly established company EPCG would have a 49 percent stake, whereas the strategic partner would hold 51 percent. The company *Skoda Praha* demanded the fulfillment of several conditions, where the most important one relates to the requirement that both EPCG and the strategic partner must give loan guarantees.

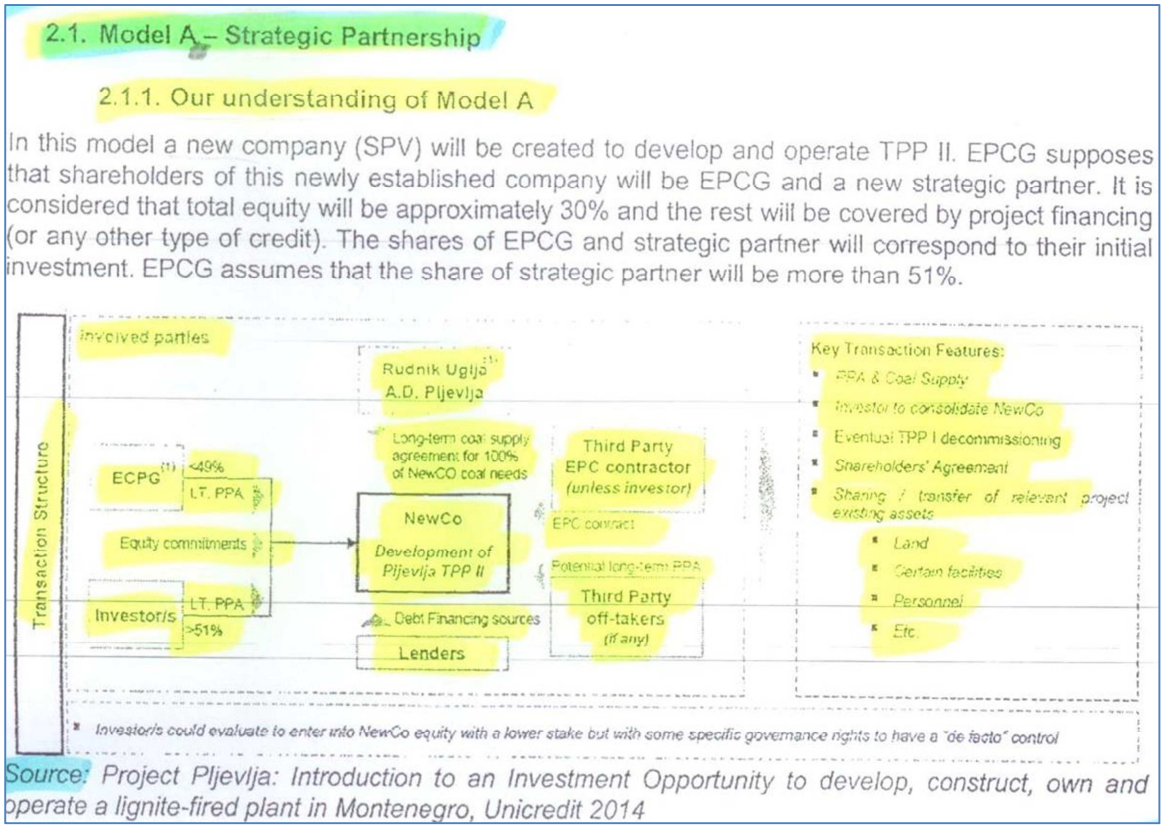


Figure 4: Excerpt from the bid of the Czech company Skoda Praha for Unit II construction

[84] Link: http://www.seebiz.eu/skoda-praha-dostavila-najpovoljniju-ponudu-za-drugi-blok-te-pljevlja/ar-110746/

[85] Pursuant to the Law on Free Access to Information, MANS requested from EPCG to submit all construction bids for Unit II, but the state energy company rejected the request; MANS lodged an appeal to the Agency for the Protection of Personal Data and the Free Access to Information, as a competent body for application of the Law on Free Access to Information, which adopted a Decision to MANS advantage, so in the end EPCG submitted the requested documents.

[86] Minutes from the public opening of bids regarding Unit II of the thermal power plant Pljevlja No. 10-00-18024 on 27 March 2015 and Proposal TPP Pljevlja Unit II, Commercial part, Skoda Praha

Skoda Praha offer has firmly stated that the company is not interested in being involved as a shareholder in the implementation of the project of Unit II construction, estimating its construction costs at €338.5 million. A maximum of 85 percent, or €287.7 million, would be secured through the loan from the Czech Export Bank. Grace period is three years and the loan repayment period of 12 years is at an interest rate of 2.5 percent, plus a six-month Euribor.

Skoda Praha has requested developing a15-year business plan for Unit II of the thermal power plant (including a system of guarantees which will provide entry and exit price and quantity), then a 15–year EPCG business plan, as well as precisely defining assets of the existing Unit I and future Unit II of the thermal power plant, such as shared equipment or prospects of the assets of Unit I after its closure.

The offer also states that the Czech Export Bank will not allow paying dividends to the future joint company, which is the owner of Unit II, until the full repayment of the loan over a period of 15 years (a three-year grace period and a 13-year repayment period).

The Czech company has indicated that the price of €338.5 million for the construction of Unit II is based on the data from the feasibility study and other documents provided by EPCG in the period prior to the submission of final bids. It also reserves the right to adjust the prices in case of changes. The Czech has based the price on the exchange rate of the euro and Czech koruna (one euro for 27 Czech korunas), which would be fixed on the date of signing the contract. In case that between this date and the final notice the exchange rate fluctuates by more than three percent, the price would be recalculated at the new exchange rate.

Skoda Praha offer shows that the company to which the management of Unit II will be entrusted will conclude a long-term contract on coal supply with *Rudnik uglja Pljevlja*. Yet, the contract conditions remain unknown.

Key elements of Skoda Praha offer:

1. Loan guarantees
2. Unit II Business Plan (15-year)
3. EPCG Business Plan (15-year)
4. Separation of Unit I and Unit II assets
5. No paying dividends until loan repayment

Obviously EPCG and the Montenegrin government have failed to find a suitable investor who would be interested in being a strategic partner in the future joint company for running Unit II. Thus, in October 2015 the government announced that the State of Montenegro would emerge as a strategic partner with a 51 percent stake, while EPCG would have 49 percent.[87] According to these announcements, EPCG would then purchase electricity from this new company at a price that would have been determined according to the cost principle, so as the new company could be sustainable.

Montenegro would provide funds for the construction of Unit II from revenues generated on the basis of ownership in EPCG, while at least 65 percent of the value of the project would be financed from the loan. In this regard, within the Budget of Montenegro for 2016,[88] the government stipulated a specific provision that "revenues derived from the ownership and realized profit of state-owned business entities in Montenegro from the field of energy can be used in 2016 to

[87] Link: http://www.vijesti.me/vijesti/drugi-blok-te-ce-graditi-kompanija-u-vlasnistvu-drzave-i-epcg-858173
[88] Link: http://www.sluzbenilist.me/PravniAktDetalji.aspx?tag={8AF90021-7610-4C09-89EC-7C232F5177C1}

regulate debtor-creditor relationship between these entities and new investments in the said business entities". It is evident that this way the government has made room for finding financial model in 2016 for the construction of Unit II of the thermal power plant in Pljevlja.

Given that the company Skoda Praha demands guarantees and the State of Montenegro could be a strategic partner, the question is whether this implies the state aid. In regard to this, it should be emphasized that, according to Law on State Aid Control[89], the term „state aid" does not include a state guarantee for beneficiary's loan, which did not show in financial reports increase in loss, reduction of revenues, increase of inventory, reduction of cash inflow, increase in indebtedness and reduction of asset value, during the period of two years preceding the provision of guarantee, provided that: loan beneficiary may obtain a loan under market conditions on the financial market; state guarantee is provided for a defined amount of credit, for a defined period of time; amount of guarantee does not cover more than 80% of the credit liability; guarantee is based on the market price.
There are, however, exceptions to this rule – state aid may be allowed as long as it is for the purpose of improving the economic development or carrying out an activity that is of public interest.[90]

By the beginning of 2016, the negotiations with the *Skoda Praha* were not concluded.

Figure 5: EPCG headquarters in Niksic

According to the latest officially published information from EPCG[91] in December 2015, the working group responsible for the implementation of the Unit II project decided to divide Design and Construction Agreement into Early Works Agreement and Engineering, Procurement and Construction Agreement. Afterwards, EPCG announced that the technological conditions were generally agreed upon and that in future the talks will focus on financial issues.

[89] Article 5 of Law on State Aid Control (Official Gazette of Montenegro no. 74/09 and no. 57/11); http://www.mif.gov.me/biblioteka/zakoni?pagerIndex=3
[90] Article 6 of Law on State Aid Control (Official Gazette of Montenegro No. 74/09 and No. 57/11);http://www.mif.gov.me/biblioteka/zakoni?pagerIndex=3

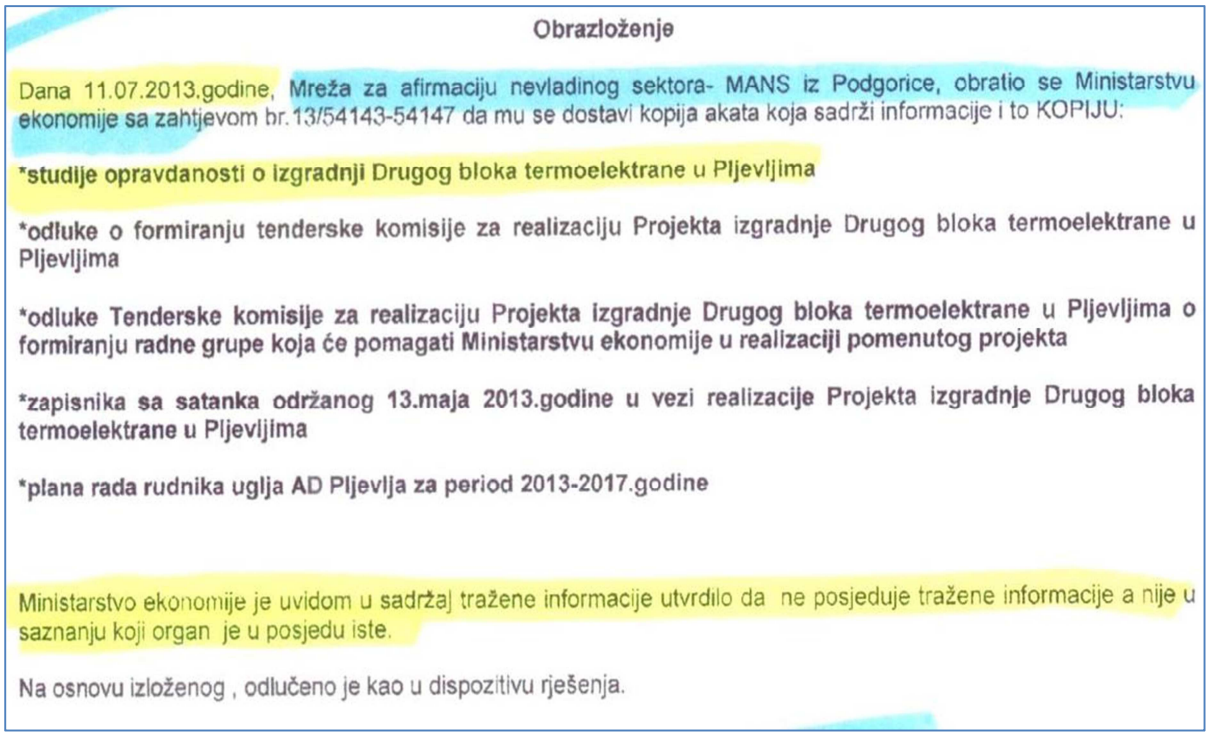
[91] Link: http://www.epcg.com/sites/epcg.com/files/multimedia

6.TRANSPARENCY OF THE PROCEDURE CONCERNING UNIT II PROJECT IMPLEMENTATION

In the period between March 2015 and early 2016 on the basis of the Law on Free Access to Information, MANS submitted 467 different requests, in order to collect relevant documents related to the project of construction of Unit II of the thermal power plant in Pljevlja. The documents were mainly required from EPCG, the Ministry of Economy, Ministry of Sustainable Development and Tourism, Ministry of Finance and Tax Administration. The institutions were submitting most of the required documents.

However, the key document – the feasibility study – for which EPCG commissioned the Slovenian consortium led by the *Esotech* from Velenje in 2012, remained secret. Having in mind that the feasibility study is the groundwork for economic sustainability of the entire project, it is evident that the transparency of the entire process has been severely violated and key data, which are essential for determining if the project is of public interest, have been hidden from the public.

As early as in mid-2013, MANS demanded from the Ministry of Economy to submit the feasibility study on Unit II construction.[92] Yet, but the request was rejected on the grounds that the Ministry did not possess the requested information.



Obrazloženje

Dana 11.07.2013.godine, Mreža za afirmaciju nevladinog sektora- MANS iz Podgorice, obratio se Ministarstvu ekonomije sa zahtjevom br.13/54143-54147 da mu se dostavi kopija akata koja sadrži informacije i to KOPIJU:

*studije opravdanosti o izgradnji Drugog bloka termoelektrane u Pljevljima

*odluke o formiranju tenderske komisije za realizaciju Projekta izgradnje Drugog bloka termoelektrane u Pljevljima

*odluke Tenderske komisije za realizaciju Projekta izgradnje Drugog bloka termoelektrane u Pljevljima o formiranju radne grupe koja će pomagati Ministarstvu ekonomije u realizaciji pomenutog projekta

*zapisnika sa satanka održanog 13.maja 2013.godine u vezi realizacije Projekta izgradnje Drugog bloka termoelektrane u Pljevljima

*plana rada rudnika uglja AD Pljevlja za period 2013-2017.godine

Ministarstvo ekonomije je uvidom u sadržaj tražene informacije utvrdilo da ne posjeduje tražene informacije a nije u saznanju koji organ je u posjedu iste.

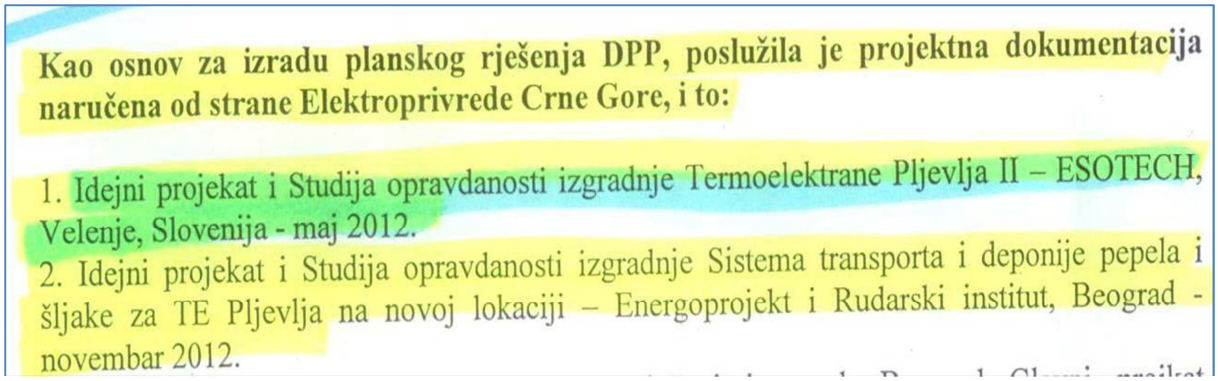
Na osnovu izloženog , odlučeno je kao u dispozitivu rješenja.

Figure 6: The Ministry of Economy claims that it does not own a feasibility study

When the Ministry of Sustainable Development and Tourism announced a public debate on the draft of DSP of the thermal power plant Pljevlja and Strategic Environmental Impact Assessment in May 2015,[93] the document clearly stated that project documents of *Elektroprivreda Crne Gore* was a cornerstone for developing DSP planning solutions. Those documents were preliminary design and feasibility study on TPP Pljevlja II - *Esotech,* Velenje, Slovenia, May 2012, and preliminary design and feasibility study on transport system and ash and slag landfill for TPP Pljevlja at a new location - *Energoprojek*t and *Rudarski institut*, Belgrade, November 2012.

[92] MANS request submitted to the Ministry of Economy No. 13/54143-54147 on 11 July 2013

[93] Link:http://www.mrt.gov.me/rubrike/javna_rasprava/148445/Javna-rasprava-o-Nacrtu-Detaljnog-prostornog-plana-za-Termoelektranu-Pljevlja-i-Nacrtu-Izvjestaja-o-strateskoj-procjeni-uticaja.html

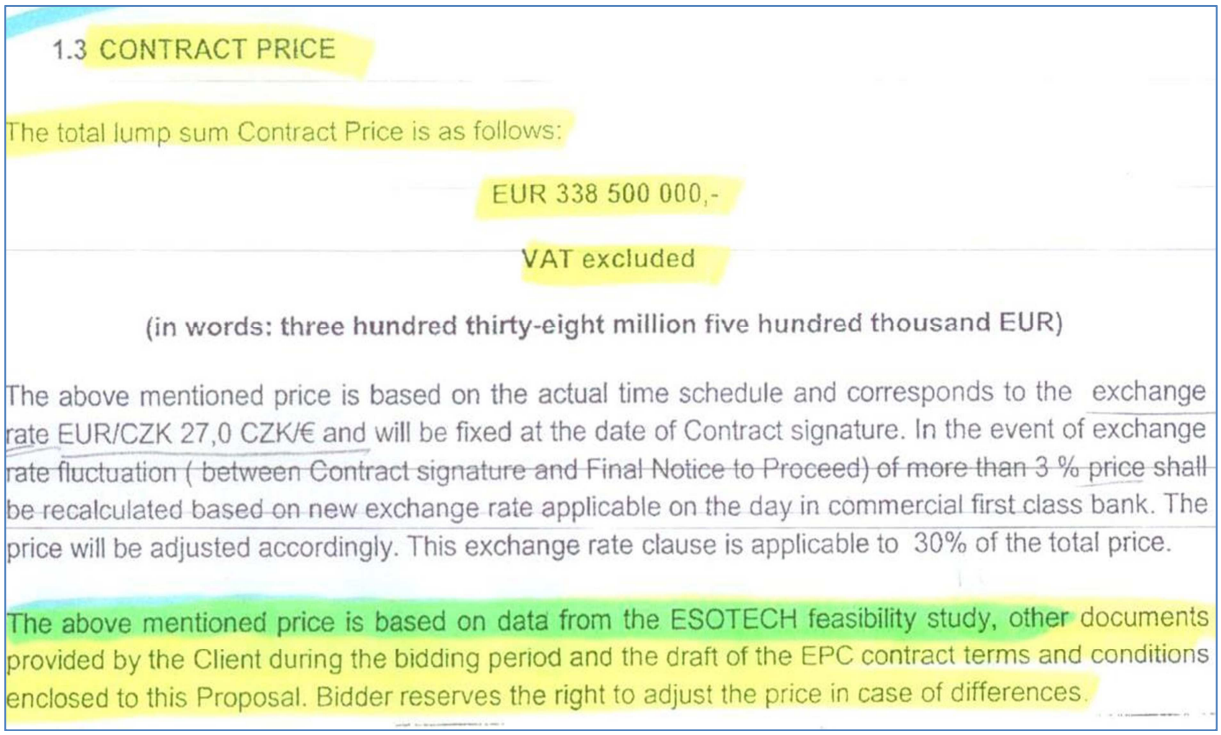


Kao osnov za izradu planskog rješenja DPP, poslužila je projektna dokumentacija naručena od strane Elektroprivrede Crne Gore, i to:

1. Idejni projekat i Studija opravdanosti izgradnje Termoelektrane Pljevlja II – ESOTECH, Velenje, Slovenija - maj 2012.
2. Idejni projekat i Studija opravdanosti izgradnje Sistema transporta i deponije pepela i šljake za TE Pljevlja na novoj lokaciji – Energoprojekt i Rudarski institut, Beograd - novembar 2012.

Figure 7: An excerpt from Strategic Environmental Impact Assessment proves the existence of the study

It is also evident from the bid of the Czech company *Skoda Praha*[94] that EPCG documents, or feasibility study carried out by *Esotech*, has been the footing on which the bid stands on.



1.3 CONTRACT PRICE

The total lump sum Contract Price is as follows:

EUR 338 500 000,-

VAT excluded

(in words: three hundred thirty-eight million five hundred thousand EUR)

The above mentioned price is based on the actual time schedule and corresponds to the exchange rate EUR/CZK 27,0 CZK/€ and will be fixed at the date of Contract signature. In the event of exchange rate fluctuation (between Contract signature and Final Notice to Proceed) of more than 3 % price shall be recalculated based on new exchange rate applicable on the day in commercial first class bank. The price will be adjusted accordingly. This exchange rate clause is applicable to 30% of the total price.

The above mentioned price is based on data from the ESOTECH feasibility study, other documents provided by the Client during the bidding period and the draft of the EPC contract terms and conditions enclosed to this Proposal. Bidder reserves the right to adjust the price in case of differences.

Figure 8: Skoda Praha bid mentions Esotech feasibility study

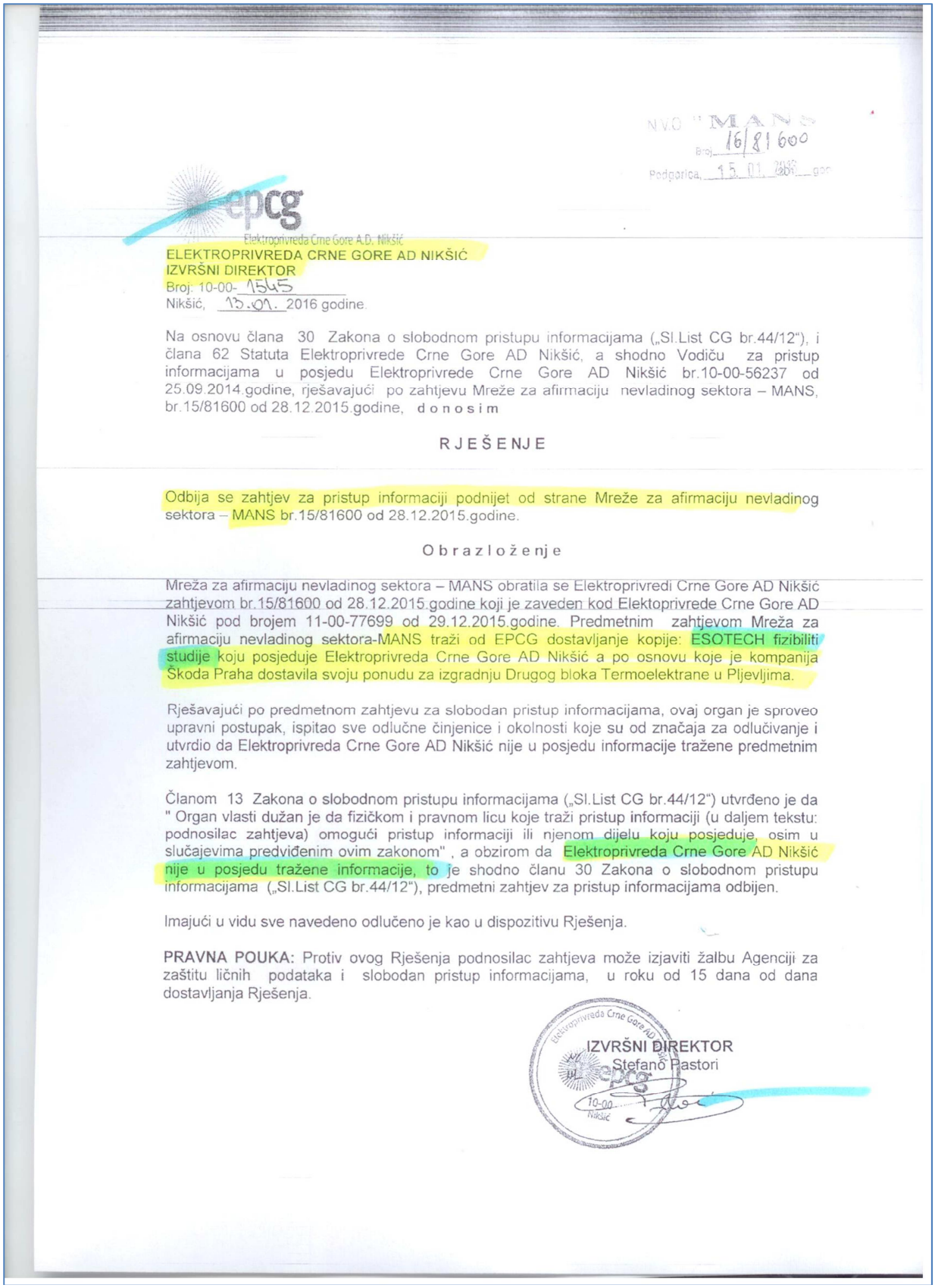
Despite the obvious confirmations that EPCG commissioned the Slovenian consortium in 2012 to carry out the feasibility study on the construction of Unit II of the thermal power plant in Pljevlja, a state-owned energy company claims not to have it. Having received an offer from the Czech company *Skoda Praha* by EPCG, in late December 2015 MANS once again requested from EPCG to submit *Esotech* feasibility study.[95] However, EPCG adopted the Decision[96] in mid-January 2016, rejecting MANS request on the grounds that it is not in possession of the requested information. By the end January MANS lodged an appeal[97] to the Agency for the Protection of Personal Data and Free Access to Information, seeking the annulment of EPCG Decision. Proceedings before the Agency are underway.

[94] Minutes of the public opening of bids for construction of Unit II of thermal power plant no. 10-00-18024, dated 27 March 2015 and Proposal TPP Pljevlja Unit II, Commercial part, *Skoda Praha*

[95] MANS request No. 15/81600 dated 28 December 2015

[96] EPCG Decision No. 10-00-1545 dated 13 January 2016

[97] MANS submitted the appeal to the Agency for the Protection of Personal Data and Free Access to Information on 29 January 2016



NVO "MANS"
Broj 16/81600
Podgorica 15.01.2016. god

epcg
Elektroprivreda Crne Gore A.D. Nikšić

ELEKTROPRIVREDA CRNE GORE AD NIKŠIĆ
IZVRŠNI DIREKTOR
Broj: 10-00- 1545
Nikšić, 15.01. 2016 godine.

Na osnovu člana 30 Zakona o slobodnom pristupu informacijama („Sl.List CG br.44/12"), i člana 62 Statuta Elektroprivrede Crne Gore AD Nikšić, a shodno Vodiču za pristup informacijama u posjedu Elektroprivrede Crne Gore AD Nikšić br.10-00-56237 od 25.09.2014.godine, rješavajući po zahtjevu Mreže za afirmaciju nevladinog sektora – MANS, br.15/81600 od 28.12.2015.godine, d o n o s i m

R J E Š E N J E

Odbija se zahtjev za pristup informaciji podnijet od strane Mreže za afirmaciju nevladinog sektora – MANS br.15/81600 od 28.12.2015.godine.

O b r a z l o ž e n j e

Mreža za afirmaciju nevladinog sektora – MANS obratila se Elektroprivredi Crne Gore AD Nikšić zahtjevom br.15/81600 od 28.12.2015.godine koji je zaveden kod Elektoprivrede Crne Gore AD Nikšić pod brojem 11-00-77699 od 29.12.2015.godine. Predmetnim zahtjevom Mreža za afirmaciju nevladinog sektora-MANS traži od EPCG dostavljanje kopije: ESOTECH fizibiliti studije koju posjeduje Elektroprivreda Crne Gore AD Nikšić a po osnovu koje je kompanija Škoda Praha dostavila svoju ponudu za izgradnju Drugog bloka Termoelektrane u Pljevljima.

Rješavajući po predmetnom zahtjevu za slobodan pristup informacijama, ovaj organ je sproveo upravni postupak, ispitao sve odlučne činjenice i okolnosti koje su od značaja za odlučivanje i utvrdio da Elektroprivreda Crne Gore AD Nikšić nije u posjedu informacije tražene predmetnim zahtjevom.

Članom 13 Zakona o slobodnom pristupu informacijama („Sl.List CG br.44/12") utvrđeno je da " Organ vlasti dužan je da fizičkom i pravnom licu koje traži pristup informaciji (u daljem tekstu: podnosilac zahtjeva) omogući pristup informaciji ili njenom dijelu koju posjeduje, osim u slučajevima predviđenim ovim zakonom" , a obzirom da Elektroprivreda Crne Gore AD Nikšić nije u posjedu tražene informacije, to je shodno članu 30 Zakona o slobodnom pristupu informacijama („Sl.List CG br.44/12"), predmetni zahtjev za pristup informacijama odbijen.

Imajući u vidu sve navedeno odlučeno je kao u dispozitivu Rješenja.

PRAVNA POUKA: Protiv ovog Rješenja podnosilac zahtjeva može izjaviti žalbu Agenciji za zaštitu ličnih podataka i slobodan pristup informacijama, u roku od 15 dana od dana dostavljanja Rješenja.

Elektroprivreda Crne Gore AD
IZVRŠNI DIREKTOR
Stefano Pastori
10-00
Nikšić

Picture 9: EPCG claims that it does not possess the feasibility study