Energy Prospects in BiH

January 2015

List of Abbreviations:

BiH - Bosnia and Herzegovina
CIN – The Center for Investigative Reporting in Sarajevo
CERS - Comsar Energy Republika Srpska
DERK - State Electricity Regulatory Commission
EPBIH – Sarajevo-based Power Utility Company in the FBiH
EPHZHB – Mostar-based Power Utility Company in the FBiH
ERS – Trebinje-based Power Utility in Republika Srpska
EFT – Energy Financing Team
EZ – Energy Community
FBiH – Federation of Bosnia and Herzegovina
FERK – FBiH Electricity Regulatory Commission
HE – hydro power station
HNK – Herzegovina Neretva Canton
IARC – International Agency for Research on Cancer
KM – convertible mark
MHE – small hydro power stations
NOSBiH – Independent System Operator in BiH
ODG – a desulfurization facility
OIE – renewable energy sources
RS - Republika Srpska
RERS - Republika Srpska Electricity Regulatory Commission
RiTE Ugljevik – Ugljevik Mine and Coal Fired Power Plant
RMU – mine of sub-bituminous coal
SE – solar energy
TE – coal fired power plant
TK – Tuzla Canton
Te-to – coal fired power plant and heating facility
VE – wind power plant
WHO – World Health Organization

Units of Measurement

Gwh – gigawatt hour
kWh -- kilowatt-hour
W – Watt
J -- Joule
mg/m3 - miligram per square meter
t - tons

Content

1. Preface

Bosnia and Herzegovina (BiH) is rich in natural resources indispensable for the production of electrical energy: water and coal. According to the State Regulatory Commission for Electrical Energy (DERK), BiH produced 16,303 GWh of electrical power, while consuming just 12,559 GWh in 2013. Excess electricity has been exported to neighboring countries over the previous four years as well.

Energy resources are controlled by the BiH entities: The Federation of Bosnia and Herzegovina (FBiH) and the Republika Srpska (RS). They are majority owners of power utility companies and by extension, most mines, hydropower plants and fossil-fueled plants.

The FBiH is the majority owner of two joint-stock power utilities: a publicly-owned Elektroprivreda BiH Sarajevo (EPBiH) and a publicly-owned Elektroprivreda Hrvatske Zajednice Herceg Bosna Mostar (J.P. EP HZ HB). The RS is the majority owner of a publicly-owned joint-stock power utility Mješoviti Holding Elektroprivreda RS Trebinje (ERS).

The production capacities of the power utilities are not evenly distributed. Utilities headquartered in Sarajevo and Trebinje are majority owners of fossil-fueled power plants which produce around half of the total BiH electricity. These utilities nearly every year have a surplus of electricity to export at competitive prices after local needs have been met. The Mostar-based power utility relies on hydropower only and sometimes must buy electricity to serve its clients.

The power utilities dominate the energy market in BiH and have had a monopoly in local areas. According to 2013 data, they supplied about 1.5 million buyers. The number is continually increasing. The utilities's monopoly over electricity ended at the start of 2015, when small consumers just like industrial customers, were given the power to choose which utility to buy from.

Some lesser ownership over the energy sector is in the hands of private interests that have been given concession permits for mining, construction and utilization of hydropower, fossil-fueled plants or the opportunity to build wind or solar power plants.

Private coal power plants have not yet been constructed, nor have any of the long advertised big wind parks. What has been going on are that small hydro-power plants and solar power stations are being connected to the grid managed by the power utilities to which they sell electricity.

The role of the state in the electro energy sector is reduced to coordinator through the Ministry of Foreign Trade and Economic Relations. The entities own three state-level companies: Elektroprenos BIH, the joint-stock company in charge of power transmission and the Independent System Operator in BiH (NOS BIH) and the State Electricity Regulatory Commission (DERK).

DERK is an independent and a non-profit state-owned institution in BiH assigned to oversee power transmission, operation of transmission system and international trade in power, as well as the production, distribution and supply of electricity in the Brčko District.

Energy oversight within the entities fall under the jurisdiction of the FBiH Electricity Regulatory Commission (FERK) and RS Electricity Regulatory Commission (RERS).

To prepare this report, reporters of the Center for Investigative Reporting in Sarajevo (CIN)

[1] State regulatory commission for electrical energy. DERK's 2013 report, http://www.derk.ba/DocumentsPDFs/DERK_izvjestaj_o_radu_2013-b.pdf, (accessed on Dec 25, 2014)

[2] Ibid.

read laws, rule books and other documents relevant to the field of power. They read reports from the FBiH Ministry of Energy, Mining and Industry, RS Ministry of Energy, Mining and Industry, DERK, FERK, RERS, NOS, the power utility companies, and the RS and the FBiH Commissions for Concessions.

While analyzing individual cases for this paper, the reporters looked into the firms' financial reports, the companies' court documents, auditors' reports, and concession contracts. They also talked with experts and officials. All the findings have already been published in stories at http://www.cin.ba/en/category/dosije/energetika/. They, along with accompanying photos and graphs, were published by numerous media outlets in BiH and the region.

2. Dirty Energy

Energy production is one of the biggest polluters and a major user of natural resources on the planet.[3] Every step in the production of electricity from coal causes pollution and environmental destruction: excavation, transport, procession, combustion and depositing of the production remnants.

Acccording to DERK, 16,303 GWh of electrical energy was produced in 2013--8.940 GWh was produced by coal powerstations and the rest in hidro powere station, solars and wind power stations. The production in coal power plants was ahead in earlier years as well, with the exception of 2010 when the power plant production was at 7,868.80 GWh, and in hydro power plants was slightly bigger: 7,946.20 GWh.[4]

[3] Center for Environment in Banja Luka: "Expensive, dirty, poisonous energy from coal and its dark secretes", March 2014., http://etnar.net/wp-content/uploads/2014/06/CZZS-Energija-Web-FIN02.pdf, (accessed on Nov 15, 2014)

[4] State Electricity Regulatory Commission -- DERK's 2013 end-year report. http://www.derk.ba/DocumentsPDFs/DERK_izvjestaj_o_radu_2013-b.pdf, (accessed on Dec 25, 2014)

2.1. Coal Fired Power Plants

There are four coal powerplants operating in BiH: in Tuzla and Kakanj which are owned by EP BiH, and Ugljevik and Gacko owned by ERS.

Most of the coal plants is older than 30 years and they rely on lignite and sub-bitumioius coal ugljen from the local mining basins. All the powerplants are characterized by low energy efficiency. On average, they spend between 11,500 and 14,500 kJ of coal's heat to produce one KWh of energy so their energy efficiency is somewhere between 25 and 31 percent. The energy efficiency of modern coal plants is higher than 41 percent.[5]

The phasing out of the existing generators is planned to successively start between 2015 and 2030, so there are plans to build new generators. The most likely to be built are new generators of the Tuzla coal power plant, owned by EP BiH, and the power plant in Banovići, that is a part of the Banovići Mine of Sub-bitumious Coal. There are plans for the construction of new generators in Kakanj and Bugojno, owned by EPBiH, but their construction is still not certain.

The first privately-owned coal power plant in BiH is under construction: In Stanari near Doboj, which should start its operation in 2016. The concession permit to build and use the power plant rests with a Stanari-based "EFT Rudnik i Termoelektrana Stanari" LLC. Also, Comsar Energy Republika Srpska (CERS)—owned by a Russian tycoon Rašid Sardarov's Cyprus-based firm Comsar Energy Group Ltd—announced the construction of a new coal power plant in Ugljevik.

Most of the existing coal fired power plants in BiH will have to decrese the emission of harmful substances in the environment, primarily dust, nitrogen and sulfur-dioxide particles. When it joined the Energy Community, BiH pledged to start implementing European regulations.

This goal can be achieved by decommissioning the oldest generators and putting the modern ones in their place, while installing filters in the remaining generators to keep them up-to-date. This would call for the investments worth millions, but would also achieve numerous advantages including: higher energy efficiency; less coal consumption; lowered costs of operation and maintenance and lowered emission of greenhouse gases.[9]

2.1.1. RITE Ugljevik- desulfurization

Power plant in Ugljevik owned by ERS had to drastically decrease sulfur dioxide in its smoke, so it took out a 181 million KM loan for a desulfurization plant. The loan is coming due but the construction has not even begun.[10]

The Ugljevik power plant burns coal which contains around 5 percent of sulfur. Combustion releases ash particles and toxic gasses, among them nitrogen oxides, carbon dioxide and a very toxic SO2, which causes acid rains and pollutes land and water. Inhalation of this gas can lead to nose and throat irritation, cough, asthma, deposit of liquid in lungs and can be deadly according to the Canadian Center for Health and Safety.

According to the power plant's own data, land and water is polluted by particles that fall after smoke leaves chimneys or when the wind blows ash deposits around. Big amounts of poisoned waters are produced in the making of electrical energy and released into the Ugljevik rivers of Mezgraja and Janja.

[5] Reference: a 2013 study by European Energy Community.

[9] European Energy Community's 2013 study.

[10] Center for Investigative Reporting: Pollution Chokes the Polluter, published Aug 22, 2014 http://www.cin.ba/en/zagadenje-gusi-zagadivaca/

Current and Planned Coal Power Plants in BIH[6]

Owner	Name	Location	Installed Power (in MW)	Production Capacity (GWh/year)	Status/Established	Planned Closure
Republika Srpska Electric Utility Trebinje	TE Ugljevik	Ugljevik	300	2,176	Opened in 1985.	2025[7]
Republika Srpska Electric Utility Trebinje	TE Gacko	Gacko	300	1,934	Opened in 1983.	2030
Bosnia and Herzegovina Electric Utility Sarajevo	TE Tuzla generator 3	Tuzla	110	473	Opened in 1966.	2015
Bosnia and Herzegovina Electric Utility Sarajevo	TE Tuzla generator 4	Tuzla	200	1,196	Opened in 1971.	2018
Bosnia and Herzegovina Electric Utility Sarajevo	TE Tuzla generator 5	Tuzla	200	1,004	Opened in 1974.	2024
Bosnia and Herzegovina Electric Utility Sarajevo	TE Tuzla generator 6	Tuzla	215	1,008	Opened in 1978.	2030
Bosnia and Herzegovina Electric Utility Sarajevo	TE Kakanj generator 5	Kakanj	110	598	Opened in 1969.	2019
Bosnia and Herzegovina Electric Utility Sarajevo	TE Kakanj generator 6	Kakanj	110	312	Opened in 1977.	2027
Bosnia and Herzegovina Electric Utility Sarajevo	TE Kakanj generator 7	Kakanj	230	1,342	Opened in 1988.	2030
KTG Zenica LLC Zenica	Te-To Zenica	Zenica	2x126 + 1x135,5	3,250	Planned to start in 2017.	_ _
Comsar Energy RS LLC Banja Luka	TE Ugljevik 3	Ugljevik	2x300	3,371	Planned to start in 2016.	_ _
"EFT-Rudnik i Termoelektrana Stanari" LLC Stanari	TE Stanari	Stanari	300	2,000	Planned to start in 2016.	_ _
Bosnia and Herzegovina Electric Utility Sarajevo	TE Tuzla generator 7	Tuzla	450	2,604	Planned to start in 2019.	_ _
Banovići Mines	RITE Banovići generator 1	Banovići	300	1,758	Planned to start in 2018.	_ _
Bosnia and Herzegovina Electric Utility Sarajevo	TE Kakanj generator 8	Kakanj	300	910	Planned to start in 2022.	_ _
Bosnia and Herzegovina Electric Utility Sarajevo	TE Kakanj Gas Turbines	Kakanj	100	?[8]	Planned to start in 2020.	_ _

[6] References: Study of the Europian Energy Sectory; Study of BiH Energy Sector; The strategy of development of energy sector in the RS by 2030; Independent System Operator in BiH; The FBiH Miinistry of Energy, Mining and Industry.

[7] The RS Authorities hope that the facility will stay in operation until 2039.

[8] No data on the capacity of the planned coal power station.

At the time CIN reporters visited, the power plant was not producing electricity because a pipe had burst in a boiler. (Photo: CIN)

Society is paying enormous price for pollution because it increases health care costs and cuts into agricultural production. The sulfur pollution from RITE Ugljevik alone costs the BiH economy more than 2.1 billion KM a year. This makes for a half of the total damages from the pollution produced by BiH power plants according to 2013 Study of European Energy Community.

At 310 meters the chimney dwarfs the Eiffel tower. Half the SO2 from the chimney pollutes BiH, while the other half it blows into Serbia, Montenegro and Croatia and across the Mediterranean, as far as France according to data collected by the ERS which is in charge of RITE.

When it joined the Energy Community, BiH pledged to start implementing European regulations and to produce electrical energy in an ecologically sound way by 2017. The Community can initiate proceedings against member countries that violate their contract, says Ognjen Marković, an independent energy consultant. He also added that this can also interfere with collaborations with international financial institutions and investors.

When BiH joined the Energy Community, RITE started to work more actively to decrease SO2. In line with its commitments, RITE must decrease the amount of SO2 in smoke from 25,000 to the acceptable 200 mg/m3 in the next three years. Tokyo-based TEPSCO made a project and the Japanese Investment Bank approved a 181 million KM loan with an annual interest rate of 0.65 percent at the end of 2009. According to EPRS, the European banks were not interested in this project.

Until 2020 only the interest not the principal of the loan is due. In February of that year Ugljevik will need to pay the first installment of the loan that needs to be paid off by August 2039. It was supposed to be finished by the end of 2013, but construction has not even started. The project is late because of red tape and the delivery of so many documents.

A number of entity and state institutions, such as, the RS National Assembly, the BiH Ministry of Finances and Treasury and RS government, jointly decided on the international loan. Through issuing permits and approvals for construction and the operation of the new facility, cumbersome bureaucracy will remain part of the project until the end.

“What I am afraid of is our bureaucracy,” said Mirković adding that RITE must provide the contractor with all necessary approvals and permits. He said that the studies done on behalf of RITE Ugljevik and the Japanese Bank by German and Japanese consultants show that wet scrubbing using lime is the cheapest way to decrease SO2 emissions.

In ideal work conditions, it is possible to decrease SO2 between 95 and 99.6 percent with this process. RITE would need around 450,000 tons of lime a year. It plans to excavate the lime from the same field it takes coal.

When it connects with sulfur in smoke, the lime will turn into around 350,000 to 400,000 tons of plaster which RITE will not be able to sell, but will have to deposit it into specially prepared chambers fitted with nylon.

Desulfurization will increase RITE's annual costs by nearly 36 million KM. The Energy Community's study shows that, at an annual rate of loan payments of 11 million KM, an additional 24.7 million KM will be needed to operate and maintain the new facility.

These include the costs of labor, excavation and transport of lime, electricity, and transport and storage of plaster. Heavy machinery will burn oil and produce emissions of the same SO2 that the method is trying to decrease.

The high costs make many wonder if major investment into a power plant 30 years old will pay off. The Energy Community's study has shown that RITE Ugljevik will be able to continue operating without new investments until 2025. The optimistic prognosis of the RS government is that the plant can run until 2039, when the last loan installment is to be paid off. If the plant closes before then the state as loan guarantor will have to pay it off.

RITE's average annual profit over the past six years was 5.7 million KM, but Mirković explained that the loan will be paid from the wear-and-tear annual costs. About 30 million KM is set aside for plant maintenance. However, he is aware that increased production costs might be an issue.

RITE now is spending 7.36 pfennigs to produce one kilowatt hour of electrical energy. The figure includes labor costs for around 1,850 employees, raw material and maintenance. Mirković said that the loan installments and maintenance and operation of desulfurization will increase production costs 10 to 15 percent.

RITE supplies power to the RS power utility which sells it to its own customers and offers excess power to traders. The Regulatory Agency for Electrical Energy in RS (RERS), sets the price of power, while the price of surplus power is decided by demand and other market factors.

Experts from the energy sector CIN talked to think that the wrong method of desulfurization was chosen and that instead of smoke, the plant should rethink the coal it uses.

Azra Jaganjac was a senior supervisory engineer for environment and the head of chemical lab for RITE Ugljevik in 1980s. In her dissertation she found that RITE will not manage to decrease SO2 emissions to the allowed limit of 200 mg/m3 because Ugljevik coal has too much sulfur. Jaganjac said that it would have paid off more if they used other methods, such as coal gasification, that is, turning of coal into gas. Such facilities have existed since the 1970s in many countries, such as the US, China, India, Botswana, and the UK. The gas could be used to power the plant or to heat city factories.

An advisor to the FBiH environment and tourism minister, Dragan Šulović, said that coal gasification can simply and cleanly almost fully scrub coal, not only of sulfur, but of nitrogen, while not leaving ash particles during combustion. Apart from being more ecologically acceptable, coal gasification could save RITE Ugljevik around 25 million KM a year in in operating desulfurization facilities. Plus, the facilities that use gas produce between 10 and 20 percent more electrical power when using the same amount of fuel.

People CIN interviewed made the point that desulfurization might not be economically viable, It will cost RITE Ugljevik around 36 million KM a year. In 30 years, that will mean more than a billion KM, the cost of a new plant with modern and efficient technology that would last for 40 years. RITE workers also worry what will happen with them once the desulfurization facility has been installed. The president of RITE Ugljevik's union Zoran

Mićanović said that desulfurization made sense 10-15 years ago and he did not see the rationale behind such a big investment into a plant nearing the end of its life.[11]

2.1.2. Pollution from Tuzla coal-fired power station

Records from local health institutions show that cancer, pulmonary and heart diseases are the most common afflicting Tuzla residents.[12] According to the WHO, a cause of these diseases are harmful particles released by coal power plants, while the IARC points out that poisoned air is the most common cause of pulmonary cancer.

An investigation by CIN shows that the FBiH authorities have allowed the Tuzla power plant to pollute above set limits for years. Instead of making it desulfurize smoke, authorities have given it permits with a blank check to pollute beyond international standards. Power plant representatives use environmental licenses as a means of their own protection, or as an excuse to continue business as usual.

Having partially burned sulfur during combustion, the plant's chimneys release around 50,000 tons of sulfur-dioxide a year. This harmful gas can cause pulmonary dysfunctions, asthma, chronic bronchitis and pulmonary disease. According to Tuzla authorities, along with this harmful gas, the gigantic chimneys spurt out 4 million tons of carbon-dioxide, 8,500 tons of nitrogen-dioxides and 3,500 to 4,000 tons of dust particles a year.

These numbers exceed the acceptable levels of air pollution set by WHO. Toxic and carcinogenic components in smoke penetrate pulmonary tissue, enter the blood and reach the heart damaging them and causing early death.

"These particles which we cannot see and which we breathe in, contain very toxic carcinogenic agents and metals; there are irritants, allergens and they are slowly killing a person once her defense mechanism has eroded," said Dr. Nurka Pranjić, a labor medicine specialist at the Tuzla city clinic and a professor at the Tuzla School of Medical Science.

More than 470,000 people from 13 municipalities of Tuzla Canton breathe in air saturated with particles from the power plant. In 2011, 136 persons from the canton fell ill from cancer, while the number of those suffering from the disease was six times smaller in cantons without power plants: Posavina, Livno and West Herzegovina.

Around Tuzla Canton another 242 persons fell ill with lung cancer during 2012 and 2013. During this two-year period, half of 7,686 deaths were caused by cardiovascular and respiratory diseases including lung cancer.

In the past years, inhabitants of Šićki Brod, Bukinje and Husin, the villages nearby the power plant, have called on the plant's management repeatedly to act on air pollution. They've organized a few protests on which they demanded that the pollution be decreased, adequate health care provided and investment poured into the villages' infrastructure.

However, power plant representatives, even though aware that the plant pollutes, do not think that they are solely to be blamed for bleak statistics, but say that it's the combined polution of all Tuzla poluters. Of six stations which measure the quality of air in the canton, five are located near the power plant.

The FBiH Environmental Law stipulated mandatory readings of air quality as of 2003. According to the law, the air must be protected from pollution harmful to human health. The law stipulates that it's necessary to take all measures to "bring the level of pollutants to the least

[11] To do the story, reporters consulted the EU Energy Community reports, RITE Ugljevik' financial reports, documentation about various methods of desulfurization of coal and smoke from power plants and conducted interviews with experts and officials.

[12] The Center for Investigative Reporting: License for Dirty Air, published on Dec 20, 2014 http://www.cin.ba/en/dozvola-za-prljavi-zrak/

Tuzla residents breathe sulfur dioxide that comes from the power plant's chimney as there is no desulfurization facility. (Photo: CIN)

possible level." The law further stipulates that industrial facilities must obtain environmental licenses.

In March 2005, a Rulebook on Monitoring Air Quality was adopted that defined the extreme values for harmful elements. In the FBiH the values were set much higher than those defined by the WHO.

The FBiH Rule Book allows the pollution levels of 125 micrograms of sulfur oxide per cubic meter a day, which is six time higher than the WHO level. In 2012 and 2013, the air in the Tuzla Canton area contained three to four times more toxic elements than allowed by the Rulebook, according to reports published by the Canton Ministry of Spatial Planning and Environmental Protection.

The most important measure which the power plant introduced in the post-war years was to install electrical filters that remove ash from smoke. That is why there has been no black snow in the Tuzla region since last year. But, bigger particles are more dangerous smaller ones because they more easily penetrate the organism through breathing.

The level of tiny particles in the air would have been greatly decreased through desulfurization, but the FBiH Ministry of Environment and Tourism does not oblige the power plant to do it. The ministry's representatives with whom CIN reporters talked said that the power plant has no desulfurization facilities, but that it nevertheless qualifies for receiving the environmental license because "it does not pose harm to the environment."

The Ministry told CIN[13] that an environmental license is not the real license--the government set out the requirements in a flexible way because of its strategic importance. The Tuzla Power Plant is the biggest producer of power in the country and generates half of the total power output in the FBiH.

The Ministry's records show that the BiH Power Utility made a profit of 37 million KM in 2013 alone, which means that it would take three years to pay off the cost of installing desulfurization facilities.

On the other hand, research by the European Agency for Health Risks and the WHO commissioned by a Tuzla-based Center for Ecology and Energy shows that by 2030, the financial costs would rise to €810 million and the loss of 39,000 lives to deaths caused by chronic diseases.

[13] References: Tuzla Canton Public Health Institute's end-year reports for the past several years; rulebooks and reports of the Tuzla Canton Ministry of Spatial Planning and Environmental Protection; the relevant laws. CIN also interviewed numerous residents, experts and officials.

Tuzla coal fired power plant has an environmental license that allows it to overpolute. (Photo: CIN)

The research was conducted in 2012 using HRAPIE methodology which defines the maximum daily level of particles. The Center's Director Džemila Agić told CIN that she decided to take this step because of significantly higher levels of sulfur dioxide than are acceptable.

According to the FBiH Law on Environmental Protection, the power plant pays a fee for polluting environment. The fee is calculated based on the annual level of particle emissions. However, the power plant has discretion to set the pollution levels. According to the powerplant's records, it pays around 2.5 million KM in annual fees.

Some money remains with the Environmental Protection Fund, while 70 percent of it goes back to Tuzla Canton which finances ecological projects submitted by the municipalities. Tuzla municipality spends part of the money on a distance heating project that aims to decrease the number of households that use coal for heating. The inhabitants of the most affected Tuzla settlements have not yet received the distant heating.

2.2. Construciton of Private Coal Power Plants

Privately-owned companies are interested in building coal power plants in BiH. One is under construction in Stanari, and there's a plan to build another one in Ugljevik. Both will use coal from local mines. They have obtained concession licenses to mine ore as well as to build and operate the coal power plants.

2.2.1. Stanari Coal Power Station

The Stanari lignite mine located near Doboj in central Bosnia and Herzegovina was founded in 1955. Since then, the mine had provided a decent living for 450 workers, but after the 1992-1995 war, it fell on hard times, like most state-owned corporations. In 2003, it became a joint-stock company, with the state as majority owner and the rest of the company shared among the workers, the RS Pension Fund and the RS Restitution Fund.[14]

According to the mine's financial records acquired by CIN, by mid-2004 the mine owed 11.6 million KM to its creditors, including money owed to suppliers, salaries and benefits to workers, pending litigation fees and loan payments to the banks.

The RS government decided to seek out a strategic partner to help cover the mine's liabilities. A call for applications seeking a partner for a new corporation was put out; the only bidder was EFT Group.

In February of 2005, the agreement incorporating EFT Group-Stanari Lignite Mine was signed between EFT Group's Danish-based subsidiary, EFT (Holdings) APS, and the joint-stock company.

The foreign partner owned 72.24 percent while the government retained the rest. The foreing partner was to invest 22.5 million KM to be spent on mining activities, equipment, drainage, and construction during 2005 and 2006.

Each of the partners accepted certain obligations. The Stanari Mine was to turn over their property to the new firm. The Banja Luka Mining Institute and Banja Luka Economic Institute appraised said property at 8,670,000 KM, however, without an itemized inventory. Instead, they said that the appraisal excluded the restaurant, coal deposits, stadium and a car of VW Golf brand.

The partners agreed that the new firm was to absorb 268 workers from the joint-stock firm Stanari Lignite Mine and would pay most of the Mine's debt: 7 million KM to the suppliers and 3.3 million KM for unpaid salaries and pension and welfare benefits.

Three months after the deal was concluded, the government granted the new company the right to mine coal for 30 years, with a possibility of extension, under the condition to pay a 3.4 percent total revenue fee from the sale of the coal.

Several months after the new firm EFT Group-Lignite Mine Stanari was formed, expert witnesses made an inventory of the Mine's property that would become the new company's property. It listed all equipment, buildings, facilities, and land, coming up with the 8,670,000 KM appraisal as the Banja Luka institutions. Financial records show that the value of property had been decreased and that it stood at 28.8 million KM according to the book value. The expert witnesses appraised the mine's land as worth less than one million KM, even though the mine's own balance sheet listed its land holdings as worth around 24 million KM.

[14] Center for Investigative Reporting: Government's Surgery for EFT's Business Success, published July 25,.2014 http://www.cin.ba/en/vladina-hirurgija-za-poslovni-uspjeh-eft-a/,

Lignite is a soft, brownish coal that resembles the look of a burned wood. (Photo: CIN)

Meanwhile, the old mine company changed its name to the Joint Stock Company Nonmetal Mine Stanari. This firm continued to work in the company-owned restaurant in Stanari with only 17 workers, as the others had been shifted over to the new firm. Since their valuable property was gone, the debts continued to pile up. On the other hand, EFT Group-Lignite Mine Stanari started doing business on the property of the old mine.

In February 2006, Republika Srpska got a new government led by Prime Minister Milorad Dodik. Three months later, the RS government issued a directive that the old firm should split from the new corporation. Noting that the debts of Non-metal Mine Stanari continued to rise, the Government suggested that the old mine could solve these problems by selling its shares in EFT Group-Lignite Mine Stanari for 10.5 million KM.

The directive granted the Danish EFT (Holdings) APS the right of first refusal when it came to buying the Stanari Nonmetals Mine stock. For its part, EFT Group-Lignite Mine Stanari agreed to hire Stanari Nonmetals Mine's workers, the dozen or so that stayed working in the restaurant. The directive commanded the mine to initiate bankruptcy proceedings after the sale of its share.

Soon enough, a tender on the sale of Nonmetals Stanari Mine's shares in the new corporation was put out stating that EFT (Holdings) APS had the right of first refusal and if it did not use it, then a bidder with the best offer would be chosen. EFT (Holdings) APS was the only bidder. It signed the agreement to buy out its partner's 27.76 percent for 10.5 million KM becoming the sole owner of the new firm.

Considering that the losses of the joint-stock company were bigger than 10.5 million KM, the money they got was not sufficient to save them. The company stopped its work.

In Jan. 2007, several months after the partners parted their ways, the expert witness Vasić made an addendum to her earlier appraisal report by adding up all the cadastre plots. In the report she said that 269 ha of land was not worth even a million KM. She appraised, 267 ha of the land to zero KM, saying that this was overburden, that is, the overlaying soil and rock that must be removed to get to the ore.[15]

[15] For the purpose of this research reporters consulted: court documents; financial paperwork; agreements on founding of a joint-stock company; concession contracts and talked with experts and public officials.

EFT – Mine and Power Plant Stanari plans to start the commercial operation of the coal power station in 2016. (Photo: CIN)

However, CIN found that according to Stanari Lignite Mine's balance sheet the value of the land was around 24 million KM. Buried beneath Stanari is at least 100 million tons of lignite, worth at least six billion KM at the current market price.

The expert witness's actions were contested in the bankruptcy proceedings inititated in 2012[16] over the property of Stanari Non-metal Mine. One of the lawyers representing creditors filed a lawsuit against a Doboj-based EFT firm in 2014. In the lawsuit he demands that the land be returned in the ownership of the joint-stock company. The lawsuit was filed with a District Commercial Court and might affect the ongoing bankrupty prceedings.

Meanwhile, EFT founded another firm in Doboj, "EFT-Termoelektrana Stanari" that it merged with the existing firm in Doboj in 2008 under the name "EFT-Rudnik i Termoelektrana Stanari." The RS government had granted it a concess to build a power plant in Stanari. The power plant is to produce 2,000 GWh of power.[17] In May 2010, EFT signed a contract on the construction of power plant and the supply of equipment with a Chinese company Dongfang Electric Corporation.

CIN learned that EFT had problems to find a financier for the plant's construction. The Chinese bank asked for guarantees when they negotiated the loan. The RS Commission for Concessions solved this problem when it passed a Rulebook on the Transfer of Concession Contract and Ownership Rights of Concessionaires in May 2011. The rulebook gave the investor the right to dispose with the concession contract in case the concessionaire defaults on the loan.

This was a good enough guarantee to the bank's officials, so a year later they signed a €350 million contract with the officials from "EFT – Mine and Power Plant Stanari".

The RS Commission for Concessions gave its approval in 2012 for the transfer of concession contracts—which combines the construction of the power plant and the rights to mine coal and use water needed for its work—to the Chinese bank.

CIN learned that "EFT – Mine and Power Plant Stanari" was mortgaged with the then capital of 32.5 million KM. Mortgage was all its property and future revenue. EFT officials say

[16] Center for Investigative Reporting in Sarajevo: Legal Battle for Stanari Land at http://www.cin.ba/en/pravna-bitka-za-zemljiste-u-stanarima/ 24.12.2014.)

[17] Center for Investigative Reporting in Sarajevo: "Javno dobro za Kineski kredit" objavljeno 31.7.2014. on thestranici CIN-a http://www.cin.ba/javno-dobro-za-kineski-kredit/,

that also the land which they have in Stanari was mortgaged, but this did not include the ore, but just the supplies of excavated coal.

In case it defaults on its loan payments, the Chinese bank will take everything.

The Pledge Agreement was signed in June 2012 and it was based on the Framework Law on Pledges in BiH and was filed with the Registry of Pledges at the BiH Ministry of Justice. However, the law does not lay down precisely the concessionaire's property a pledge. A year later, the RS National Assembly changed the RS Law on Concessions which then allowed the investor to take over the right of mortgage disposal over the concessionaire's property if it moved the project forward.

2.2.2. Coal Fired Power Plant in Ugljevik

In northwest BiH lies Ugljevik, a small mining town in which sub-bituminous coal has been excavated for more than a hundred years. Most of the coal ends up as fuel in the boilers of Public Company Ugljevik Mine and Power Plant (RITE) which produces electrical energy under the Republika Srpska (RS) Power Utility. Until March 2011, the company had the exclusive right to mine coal.

This changed when the RS government, RITE's majority owner, accepted a letter of intent from a firm owned by Russian billionaire Rashid Sardarov. The letter asked for a concession license to mine coal as well as a concession for building and the use of new thermal energy units in Ugljevik which would be connected to the power grid of the state power plant.[18]

The RS government's prime minister at the time was Aleksandar Džombić of SNSD. The government accepted Sardarov's offer within nine days. Almost 2.5 years later, the RS Ministry of Industry, Energy and Mining put out a call for applications for awarding the concession. It was certain that Sardarov was going to win this bid because the highest RS official kept introducing him as a new partner to build a coal fired power plant for more than two years.[19]

On top of this, at Sardarov's bidding in a letter of intent to the RS government, authorities approved setting up of a firm Comsar Energy RS (CERS), two years before the call was published. CERS was founded in partnership with public enterprise Ugljevik Mine and Power Plant (RiTE). More than 98 percent of the firm belongs to Sardarov's Comsar Energy Group LTD.

Sardarov's Cyprus firm wired 10.5 million KM to the government for the incorporation equity, while RITE Ugljevik transferred the land for the building of the new units to the new firm. The land was worth 1 million KM, and RITE also added to it 100,000 KM in cash. Comsar Energy Group Ltd invested an additional 53 million KM in CERS at the end of 2013.

CERS first received a concession to mine coal at the major part of deposit Ugljevik – East. Having one's own coal was put afterwards as a condition to participate in the call for applications for the construction of the Ugljevik plant.

The call was closed after for 45 days. The required paperwork included a feasibility study to be done in line with the laws on awarding a concession following a sole-source contract. This was not possible to do on such a short notice.

The RS Law on Concessions stipulates that a concession can be awarded based on a sole-source contract only if the RS Government has established that it is in the public interest to do so. That means that it is either urgent business or that only one bidder has the right to a certain methodology of doing business, according to the Guidelines for Assessing Public Interest.

[18] The Center for Investigative Reporting in Sarajevo: The Struggle for Ugljevik Coal; published on June 16, 2014 at http://www.cin.ba/en/borba-za-ugljevicki-ugalj/,

[19] The Center for Investigative Reporting in Sarajevo: Russion Billionaire of Public Interest; published on Aug 5, 2014 at http://www.cin.ba/en/ruski-milijarder-od-javnog-interesa/,

State power plant RITE Ugljevik could find itself with depleted coal deposits to fuel its production. (Photo: CIN)

In the case of Sardarov's business deals, neither of the conditions for establishing public interest has been met. Chairman of the RS Concession Commission Predrag Aškrabić said that the RS government decides who will be awarded a concession, while his agency only follows procedures. "If you want someone to back you up, it is only natural that you want to attract his capital," said Aškrabić.

According to October 2013 concession contract, CERS will build a 600 megawatt (MW) power plant and use it over the next 30 years. The plant will use more than 4 million tons of coal annually from the three deposits awarded to CERS that have a total of 118 million tons. However, construction of the plant has not yet started.

Still, the RITE Ugljevik representatives are not happy with the government's decision on the partnership. The RITE Union does not agree with the government's moves and fears that the power plant will end up with insufficient coal reserves.

CERS also received a concession to mine two coal deposits: Baljak and the site called "Delići and Peljave-Tobut" in 2011. Research indicates the sites contain at least 68 million of tons of coal, according to CERS paperwork, which indicates plans to mine about four million tons of coal annually. The current price of coal is around 60 KM per ton.

Along with this, CERS asked the government for permission to mine at Ugljevik-East, which led to several strikes and protests by members of the RITE Union, who consider the site theirs.

For years, the power plant has been trying to secure a new source of coal because the fuel is about to run out at its current mine, Bogutovo Selo. The union's paperwork shows that RITE failed twice in its efforts to secure a concession to mine at Ugljevik East, in 2008 and 2011. The RS Government made promises to RITE but a deal was never concluded.

The government has divided the Ugljevik site in a 30 percent-70 percent split. Ugljevic-East, the smaller parcel, contains an estimated 21 million tons of coal. The larger parcel, Ugljevic-East II, contains an estimated 50 million tons. Ugljevik-East was allotted to the state power plant, while the larger Ugljevik-East II went to CERS.

The workers at RITE Ugljevik warn that 21 million tons of coal from Ugljevik-East I will not be sufficient to meet the needs of the power plant for the next 25 years. RITE burns 1.5 million tons of coal a year. Workers also say Sardarov got much better mining terms than RITE did.

After the division of the original Ugljevik-East site, the government had put out a public call for call for applications for the concession license, noting that the site's production was going to fuel the new plant. First the government made it clear that CERS was to get additional points or a 10 percent bonus because it came up with a sole-source contract. RITE Ugljevik Management did not even submit a bid.

Local authorities in Ugljevik don't have much information about what the government plans to do with Sardarov, because a year after his letter was accepted, no feasibility study or environmental impact assessment has been done.

Professor Aleksa Milojević from a Bijeljina-based Economics Institute wrote in his study that the RS Government was in fact privatizing coal and electrical power production which was going to significantly damage the industry because privatized natural resources were going to benefit only a narrow group of people, not society as a whole.

No developed country has turned over its coal and electricity production to the private sector because this would lead to higher electricity prices for its industry thus making it less competitive on the market, according to the study.

Mining expert Cvjetko Jovanović agrees. He retired two years ago as the head of RITE Ugljevik's Development Department. He said that the government was snatching the coal away from citizens and giving it away for peanuts to foreign investors. He believes that this was facilitated by people in power.

Sardarov did his own feasibility study in 2013, two years after having sent the letter of intent. The study confirmed Professor Milojević's findings that this was a lucrative deal.

Sardarov's study predicts that the project will make money in all its years of operation and will pay off even if as much as 75 percent of the invested money comes from a loan. The planned lifespan of the facility is between 25 and 40 years, depending on maintenance. The cost of building of the new units was estimated at 1.06 billion KM.

The investor plans to pay back the investment within 10 or 11 years of the new units' operation by earning around 81 million KM a year from the sale of electricity.

The government had claimed that the investment was going to create jobs for 1,000 workers in the course of construction and 700 permanent jobs in the new units. However, CERS has already signed a contract with a Chinese corporation, CPECC, which will build the units without hiring local labor. Sardarov's study predicts that 303 workers will be hired in the new units.

The RS Commission for Concession refused to give CIN access to the concession contracts.[20] According to records from the RS Ministry of Industry, Energy and Mining, the firms from the Comsar Group have wired so far around 7.5 million KM in one-time concession fees, and during the lifetime of the concession they are to pay 3.2 percent of its annual revenue in concession fees.

Using the figures from CERS study, this could be around 3.8 million KM a year, but the Ministry would not say what were precisely the foreign investor's obligations based on the concession for the construction and the use of new units.

After the only unit of the public company shuts down, the two other new units will continue to operate. Their majority owner is Sardarov who plans to build them. Four interviewees told the reporters that it was a covert privatization of the energy sector.

[20] CIN filed a lawsuit against the RS Ministry of Industry, Energy and Mining on charges of denying access to information.

Sub-bituminous coal from RMU Zenica has the highest heating value compared to other coals in BiH. This value can vary from 19,000 to 25,000 KJ/kg, but also has a high sulfure content (2%-6%). In this mine the coal is extracted by shaft mining. (Photo:CIN).

2.3. Mines

Mine represents an important part in the energy sector and economic structure in BiH.[21] Coal is represented 90 percent out of the country's overall energy resources. The most important coal deposits are located in the coal basins of Tuzla (Kreka, Banovići, Đurđevik and Ugljevik), Central Bosnia (Kakanj, Breza, Zenica and Bila), Bugojno (Gračanica), Livno-Duvno (Tušnica), Gacko (Gacko) and Doboj-Banja Luka (Stanari). The Kamengrad mine in the Kamengrad basin has not been significantly active since the end of war, while the Mostar mine in the Mostar basin is closed.

The most significant reserves of sub-bituminous coal in BiH are in Centra-Bosnia, Banovići and Ugljenik-Priboj basin, while the most important deposits of lignite are in the basins of Kreka, Gacko, Stanari, Bugojno, Livno and Duvno.[22]

Until the war, BiH mines were organized into a single mining company: Titovi Rudnici Uglja – Tito's Coal Mines. After the war, they were reorganized and a bigger part of mines remained in the FBiH, and the smaller in the RS.

In the area of FBiH were formed two independent companies which brought together the mines whose basins where nearby coal power plants: Tuzla Coal Mines LLC (Kreka, Banovići and Đurđevik) and Srednja Bosna Coal Miness LLC Kakanj (RMU Kakanj, RMU Breza, RMU Zenica, Abid Lolić and Gračanica). In 1999, they were split into eight independent local coal mines in the FBiH.[23]

In 2008, the FBiH government, as the mines' owner, adopted a Law on Financial Consolidation of the Mines. This law was used to pave the way for paying workers' benefits that the mines had avoided paying by 2007. By the end of 2015, the government planned to invest more than 178 million KM which would be increase the state's authorized share capital in the mines that was decreased in the past to cover the losses.

[21] Energy Institute "Hrvoje Požar" from Croatia; Soluziona from Spain; a Banja Luka Economic Institute and a Tuzla Mining Institute: Energy Sector Study in BiH; Nov 2008.

[22] Energy Association, Dec 2008. http://www.savezenergeticara.org.rs/wp-content/uploads/2011/11/Energija-Ekonomija-Ekologija-4-2008.pdf, (accessed on Nov 12, 2014)

[23] FBIH Ministry of Energy, Mining and Industry: "Strategic Plan and Program of Energy Sector Development in FBiH", 2009

In 2009, the FBiH government passed a Resolution to transfer its share in the mines to the public utility company EPBiH d. d. Sarajevo. In this way, the utility took control of the mines and became the shareholder worth 81,804,238 KM: in RMU „Kakanj" LLC Kakanj in the amount of 19,719,853 KM; in RMU „Breza" LLC Breza in the amount of 12,490,360 KM; Rudnik „Gračanica" LLC Gornji Vakuf – Uskoplje in the amount of 5,065,082 KM; RMU „Abid Lolić" LLC Travnik – Bila in the amount of 762,313 KM; Rudnici „Kreka" LLC Tuzla in the amount of 37,144,754 KM; RMU „Đurđevik" LLC Đurđevik in the amount of 5,107,789 KM and in RMU „Zenica" LLC Zenica in the amount of 1,514,087 KM.[24]

Outside of this corporation remains the Banovići Mine of Sub-bitumious Coal where the FBIH Government is the majority owner, while the Coal Mine „Tušnica" LLC and the Mines of Sub-bituminous Coal „Kamengrad" d.d. officially do not have production.

All mines in FBiH have issues. It is especially complicated to raise the production level in shaft mining. A special focus should be paid to refurbishing these mines, both in terms of restructuring and modernization, and decide on the future of excess workers.[25]

According to Emir Aganović, deputy director general for the development in EPBiH, said that the mines under the EPBiH umbrella have been trying to decrease the number of workers since the forming of the consortium. But, this is a slow going. One of the ways to decrease the number of workers is through large settlement payments says Aganović. The workers who are no longer needed to the mines are offered a settlement payment worth 15 salaries, while that work place is being closed.

The biggest progress made a Tuzla-based Kreka Mines which managed to decrease the number of workers from 4,100 to 3,200 since 2009. The company's director Enver Omazić said that this was done in two ways: with workers retiring and taking settlement payments, while Kreka has not taken on new workers.

Shaft mining which is prevalent in the FBiH is very insecure workers-wise considering the the current coal prices. At the same time, this technology is not profitable. Despite modern technologies, EU members are also in the same bind and plan to completely close down this type of coal excavation. Germany, which is one of the biggest mining industries in Europe will fully close its shafts by 2018. BiH is not yet considered this strategy.

According to data published in the Strategic Plan and Program for Development of Energy Sector in FBIH, the market reserves of coal amount to 327 millions of tons (lignite 187 million tons and sub-bituminous 140 million tons). Coal as a primary energy resource in FBiH and BiH has a strategic and indispensable role.

In the RS area, lignite and sub-bituminous coal reserves are distributed over seven important coal basins: Gacko, Ugljevik, Stanari, Miljevina, Kotor Varoš, Lješljani and Ramići. There are other locations with smaller reserves which are not of enough interests energy-wise or have been abandoned due to unfavorable conditions for excavations.

The total reserves on balance sheets amount to 684 million tons, of which 390 milions of lignite and 294 million tons of sub-bituminous coal. The total reserves for exploitation amount to 578 million tons of which 353 million tons of lignite and 225 million tons of sub-bituminous coal. Coal is mostly used for the production of electrical energy in power plants (over 90 percent) while the remaining amount is used for other commercial purposes.[26]

The limiting factor in the development of coal sector, both in the RS as well internationally, are negative environmental impacts of excavation technology and coal combustion.

At the RS area, the private capital entered mining. Besides the Stanari Lignite Mine that "EFT Rudnik i Termoelektrana Stanari" LLC Stanari got under concession and a part of the

[24] Audit Office for the Institutions of the FBiH: "Report on the Audit of 2010 Financial Statements of EPBiH"

[25] BIH Ministry of Energy, Mining and Industry: "Strategic Plan and Program of Energy Sector Development in FBiH", 2009.

[26] Republika Srpska Strategy of Energy Development, Septembar 2009.

Haljići Mine is a part of Kakanj Mine of Sub-bituminous Coal. It is located nearby the coal power plant, between Kakanj and Kraljeva Sutjeska. Miners in the pit oversee the work of the coal excavator. (Photo:CIN)

Ugljevik that Sardarov's firm had taken over, a privately-owned Pavgord company took over a Miljevina mine near Foča.

According to the media,[27] Pavgord bought the mine for six million KM, and it promissed to invest ten million KM into mine, hire 100 workers and achive the production level of 100,000 tons of coal.

The open pit of Dubrava is a part of Kreka Coal Mine. The exploitation of lignite began on this site in 1980. In August 2014, two landslides appeared following the floodings. This led to a temporary hault in work of the pit. (Photo: CIN)

[27] Nezavisne Novine: "Successful New Start of Miljevina" at http://www.nezavisne.com/novosti/bih/Uspjesan-novi-start-Miljevine-73899.html, accessed Nov 15, 2014

Mines in BiH[28]

Name	Location	Type of Coal	Methods of Extraction	Annual Production (tons)	Reserves of Coal on Balance Sheets (tons)	Customers
"Banovići" Mines	Banovići	sub-bituminous coal	surface and underground	1,500,000.00	194,085,000	TE Tuzla (70%), others (30%)
"Kreka" LLC Mines	Tuzla	lignite	surface and underground	2,700,000.00	743,954,000	TE Tuzla (92%), others (8%)
"Đurđevik" LLC Mine	Đurđevik	sub-bituminous coal	surface and underground	570,000.00	60,000,000	TE Tuzla (85%), others (15%)
"Kakanj" LLC Mine	Kakanj	sub-bituminous coal	surface and underground	1,170,000.00	257,000,000	TE Kakanj (95%), others (5%)
"Breza" LLC Mine	Breza	sub-bituminous coal	surface and underground	500,000.00	49,000,000	TE Kakanj (91%), others (9%)
"Zenica" LLC Mine	Zenica	sub-bituminous coal	underground	419,000.00	180,000,000	TE Kakanj (39%), others (61%)
"Abid Lolić" LLC Mine	Travnik-Bila	sub-bituminous coal	underground	145,000.00	27,000,000	TE Kakanj (75%), others (25%)
"Gračanica" LLC Mine	Gornji Vakuf-Uskoplje	lignite	surface	255,000.00	11,000,000	TE Kakanj (67%), others (33%)
"Tušnica" LLC Mine	Livno	lignite and sub-bituminous coal	surface	No official records of production	76.201.000 lignite + 16.274.000 sub-bituminous coal	No official records of customers
"Kamengrad" Mine	Sanski Most	sub-bituminous coal	surface	No official records of production	112,001,000	No official records of customers
Terex-Kop Mine (Mezgraja)	Ugljevik	sub-bituminous coal	surface	32.914*[29]	Belongs to a balance sheet of Ugljevik basin.**	Retail
ZP RiTE Ugljevik	Ugljevik	sub-bituminous coal	surface	1,750,000.00	186,544,000	Ugljevik Power Plant
ZP RiTE Gacko	Gacko	lignite	surface	2,480,000.00	278,540,000	Gacko Power Plant
Stanari Mine	Stanari, Doboj	lignite	surface	881,632.00	107,221,000	Tuzla Power Plant, Export, Retail
Miljevina LLC Mine	Miljevina, Foča	sub-bituminous coal	surface and underground	45.042*	21,200,000	Retail

[28] References: Mines; EPBiH; ERS; FBIH Registry of Securities; RS Securities Commission; RS Official Gazette issue 24/11; White Paper on Energy Sector in BiH

[29] All data are related to 2013, except those marked with an asterix which are related to 2011.

3. Renewables

On Oct 18, 2012, in line with the Contract on the establishment of Energy Community, the BiH Counil of Ministers adopted a Resolution on the Implementation of the Directive 2009/28 that called for promotion of the use of energy from renewable sources to which BiH pledged to introduce 40 percent of renewable energy sources in the electricity production by 2020.[30]

The Energy Community Secretariat estimated that BiH used 34 percent of renewable energy sources in 2009, which means that it has to increase its share of clean energy for another six percent.

In 2014, in order to achieve this, the governments of the FBiH and the RS have adopted the plans for the use of renewable energy sources and supporting production based on renewables.

According to the FBiH action plan, this entity will subsidize 50 MW from the hydropower stations producing 205 MWh electrical energy; 12 MW from solars producing 18 MWh of power and around 43 MW from constructed wind power stations expected to produce 107 MWh per year. By 2020, The FBiH will subsidies 4.6 MW from the biomass power station that would produce around 30 MWh a year.

Republika Srpska decided to increase support for the hydro and wind power plants by 2020. By the end of this period it will subsidize 110 MW in hydro power stations which should produce 495 MWh of power; 4.2 MW from solar power stations which produce 5 MWh of power; 100 MW in wind power stations which plan to produce 200 MWh of power and 16.5 MW of power from biomass out of the overall plan of producing 44.56 MWh of power annually.

Both governments said that the percentages within different energy sources may change, but, the sum at the end of 2020 has to be as agreed.

[30] FBiH Ministry of Energy, Mining and Industry: Action Plan for Use of Renewables in FBIH, May 2014.

3.1. Hydro Power Stations

There are hydro power stations which are owned by public utility companies and those built by private companies which have been awarded the concession contracts.

According to DERK's records for 2013, the combined installed capacity of production facilities in BiH amounts to 3,978.86 MW, of which the share of the major hydro stations amounts to 2,048 MW and the coal fired ones to 1,765 MW. The installed capacity of small hydro, wind and solar power stations in BiH is 73.63 MW, while 91.23 MW is installed in industrial power stations.

According to the same source, due to favorable hydrological conditions in 2013, the production of electrical energy in hydro power station amounted to 7,124 GWh, or as much as 71.7 percent more than in 2012.[31]

34 private hydro power stations are connected to the Sarajevo and Mostar managed power grids. They supplied around 202 million kWh of power receiving 23.8 million KM for it in the period between 2012 and August 2014.[34]

The oldest small hydro power station is "Vitez 1" located in Vitez, Central Bosnia, which received its permit to produce electrical energy in 2007.[35] The licenses are given out by the Regulatory Commission for Electrical Energy in FBiH (FERK), based on a concession contract signed with a canton or the entity, depending on location and the installed power.

Mirko Šakić, the owner of "Vitez 1" signed a concession contract at the end of 2004. He said that he invested around 5 million KM. He paid the installments with the money he's been receiving from the Power Authority. His hydro power station collects around half million KM in revenue every year depending on the amount of water available. "The state gave me the concession. I hope for water from the God. The idea is mine," Šakić told the Center for Investigative Reporting.

Audit Office for the Institutions of the Federation BiH published a performance audit on concession management in February 2011.[36] In it it warned that that the system of concession distribution failed to attract more important investments and contribute to the economic development.

According to the RERS records[37] the small hydropower stations from whom the entity is buying power have produced 24,650,412 kWh of power and made 3,115,211 KM in 2013.

According to the RS Energy Development Strategy until 2030 which was published in Aug. 2010, the entity is rich in hydropower that has not been mined to its full potential. The most significant potential lies in the basins of the Drina, Vrbas and Trebišnjica rivers, and the smaller part in the basins of the Una, Sana, Bosna and Neretva rivers.

[31] DERK's report for 2013

[34] Records from EPBiH and EPHZHB

[35] The Center for Investigative Reporting in Sarajevo: Half Million KM for Power From Renewable Sources at http://www.cin.ba/pola-miliona-maraka-za-struju-iz-obnovljivih-izvora/, published Aug 8, 2012

[36] FBiH Audit Office: Performance Audity -- Managing Concessions in the FBiH, February 2011.

[37] RERS: 2013 end-year report, http://reers.ba/sites/default/files/Izvjestaj_RERS_2013_cir.pdf, accessed on Jan 18, 2015

Hydro Power stations in BiH[32]

Owner	Name	River/Municipality	Installed Power in MW	Electric Utility Managing Electrical Grid
Bosnia and Herzegovina Electric Utility Sarajevo	Hydro Power Plant Jablanica	Neretva,Jablanica	180	Bosnia and Herzegovina Electric Utility Sarajevo
Bosnia and Herzegovina Electric Utility Sarajevo	Hydro Power Plant Grabovica	Neretva, Jablanica - Mostar	114	Bosnia and Herzegovina Electric Utility Sarajevo
Bosnia and Herzegovina Electric Utility Sarajevo	Hydro Power Plant Salakovac	Neretva, Mostar	210	Bosnia and Herzegovina Electric Utility Sarajevo
Bosnia and Herzegovina Electric Utility Sarajevo	Hydro Power Plant Una Kostela	Una, Bihać	10,2	Bosnia and Herzegovina Electric Utility Sarajevo
Bosnia and Herzegovina Electric Utility Sarajevo	Small Power Plant Osanica	Osanica, Goražde	1	Bosnia and Herzegovina Electric Utility Sarajevo
Bosnia and Herzegovina Electric Utility Sarajevo	Small Power Plant Modrac	Spreča, Lukavac	1.89	Bosnia and Herzegovina Electric Utility Sarajevo
Bosnia and Herzegovina Electric Utility Sarajevo	Small Power Plant Snježnica	Snježnica, Teočak	0,42	Bosnia and Herzegovina Electric Utility Sarajevo
Bosnia and Herzegovina Electric Utility Sarajevo	Small Power Plant Bihać	Una, Bihać	0,16	Bosnia and Herzegovina Electric Utility Sarajevo
Bosnia and Herzegovina Electric Utility Sarajevo	Small Power Plant Krušnica	Krušnica, Bosanska Krupa	0,46	Bosnia and Herzegovina Electric Utility Sarajevo
Amitea LLC Mostar	Small Power Plant Trešanica T-4	Trešanjica, Konjic	1.23	Bosnia and Herzegovina Electric Utility Sarajevo
Eco Energy LLC Gračanica	Small Power Plant Osanica 4	Osanica, Goražde	0,63	Bosnia and Herzegovina Electric Utility Sarajevo
Energonova LLC Sarajevo	Small Power Plant Čemernica	Čemernica, Prača - Pale	0,5	Bosnia and Herzegovina Electric Utility Sarajevo
Energonova LLC Sarajevo	Small Power Plant Kaljani	Prača, Prača - Pale	1,14	Bosnia and Herzegovina Electric Utility Sarajevo
Intrade-Energija LLC Sarajevo	Small Power Plant Jezernica	Jezernica, Fojnica	1,37	Bosnia and Herzegovina Electric Utility Sarajevo
Intrade-Energija LLC Sarajevo	Small Power Plant Mujakovići	Jezernica, Fojnica	1,63	Bosnia and Herzegovina Electric Utility Sarajevo
Intrade-Energija LLC Sarajevo	Small Power Plant Majdan	Kozica, Fojnica	2,8	Bosnia and Herzegovina Electric Utility Sarajevo
Intrade-Energija LLC Sarajevo	Small Power Plant Butun	Kozica, Fojnica	1.11	Bosnia and Herzegovina Electric Utility Sarajevo

[32] References: References: Operator for Renewable Energy Sources and Efficient Cogeneration, ERS, EP HZHB, EPBIH, FERK.

Owner	Name	River/Municipality	Installed Power in MW	Electric Utility Managing Electrical Grid
Comprex LLC Sarajevo	Small Power Plant Mošćani	Kozica, Mehurić - Travnik	0,77	Bosnia and Herzegovina Electric Utility Sarajevo
Comprex LLC Sarajevo	Small Power Plant Prusac 1	Prusac, Prusac - Donji Vakuf	0,63	Bosnia and Herzegovina Electric Utility Sarajevo
Elgrad LLC Vinac, Jajce	Small Power Plant Bila Voda	Naselje Vinac, Jajce	0,055	Bosnia and Herzegovina Electric Utility Sarajevo
Elgrad LLC Vinac, Jajce	Small Power Plant Glasinac	Naselje Vinac, Jajce	0,11	Bosnia and Herzegovina Electric Utility Sarajevo
Vesna-S LLC Bugojno	Small Power Plant Pršljanica 1	Pršljanica, Bugojno	0,2	Bosnia and Herzegovina Electric Utility Sarajevo
Inter-energo LLC Gornji Vakuf-Uskoplje	Small Power Plant Jelići	Vrbas, Gornji Vakuf	1,35	Bosnia and Herzegovina Electric Utility Sarajevo
Inter-energo LLC Gornji Vakuf-Uskoplje	Small Power Plant Ružnovac	Vrbas, Gornji Vakuf	0.99	Bosnia and Herzegovina Electric Utility Sarajevo
Inter-energo LLC Gornji Vakuf-Uskoplje	Small Power Plant Derala	Deralski potok, Gornji Vakuf	0,23	Bosnia and Herzegovina Electric Utility Sarajevo
IEP energija LLC Gornji Vakuf-Uskoplje	Small Power Plant Sastavci	Vrbas, Gornji Vakuf	0.7	Bosnia and Herzegovina Electric Utility Sarajevo
IEP energija LLC Gornji Vakuf-Uskoplje	Small Power Plant Duboki potok	Desna, Gornji Vakuf	0.82	Bosnia and Herzegovina Electric Utility Sarajevo
KARA DRVO LLC Kiseljak	Small Power Plant Pogledala	Borovnica, Fojnica	0.69	Bosnia and Herzegovina Electric Utility Sarajevo
KARA DRVO LLC Kiseljak	Small Power Plant Grablje	Borovnica, Fojnica	0,35	Bosnia and Herzegovina Electric Utility Sarajevo
Vlašić gradnja LLC Travnik	Small Power Plant Torlakovac	Sokolinski potok, Donji Vakuf	0,47	Bosnia and Herzegovina Electric Utility Sarajevo
Grid BH LLC Sarajevo	Small Power Plant Mujada	Prusačka rijeka, Donji Vakuf	1.13	Bosnia and Herzegovina Electric Utility Sarajevo
Eskimo S2 LLC Travnik-Mehurić	Small Power Plant Vileška	Vileški potok, Bugojno	0,34	Bosnia and Herzegovina Electric Utility Sarajevo
Eskimo S2 LLC Travnik-Mehurić	Small Power Plant Podstinje	Rijeke Bila, naselje Han Bila	0,42	Bosnia and Herzegovina Electric Utility Sarajevo
Eskimo S2 LLC Travnik-Mehurić	Small Power Plant Hum	Jasenica, Mahurić, Travnik	0,65	Bosnia and Herzegovina Electric Utility Sarajevo
Adrija-produkt LLC Zenica	Small Power Plant Bistričak	Bistričak, naselje Nemila	0.99	Bosnia and Herzegovina Electric Utility Sarajevo

Owner	Name	River/Municipality	Installed Power in MW	Electric Utility Managing Electrical Grid
JP Vodovod i kanalizacija LLC Zenica	Small Power Plant Čajdraš	Rasteretna komora magistralne vodovodne cijevi "Kruščica-rezervoar Zmajevac II", Zenica	0.48	Bosnia and Herzegovina Electric Utility Sarajevo
EBH LLC Sarajevo	Small Power Plant Čardak	Gostović, Zavidovići	0,95	Bosnia and Herzegovina Electric Utility Sarajevo
JP Spreča Tuzla	Small Power Plant Modrac 2	Modrac, Spreča	0.58	Bosnia and Herzegovina Electric Utility Sarajevo
HZ HB Electric Utility Mostar	Hydro Power Plant Rama	Rama, Prozor-Rama	160	HZ HB Electric Utility Mostar
HZ HB Electric Utility Mostar	Crpna hidroelektrana Čapljina	Trebišnjica, Čapljina	420	HZ HB Electric Utility Mostar
HZ HB Electric Utility Mostar	Hydro Power Plant Mostar	Neretva, Mostar	72	HZ HB Electric Utility Mostar
HZ HB Electric Utility Mostar	Hydro Power Plant Jajce 1	Vrbas, Jajce	60	HZ HB Electric Utility Mostar
HZ HB Electric Utility Mostar	Hydro Power Plant Jajce 2	Vrbas, Jajce	30	HZ HB Electric Utility Mostar
HZ HB Electric Utility Mostar	Hydro Power Plant Peć Mlini	Tihaljina, Grude	30	HZ HB Electric Utility Mostar
HZ HB Electric Utility Mostar	Hydro Power Plant Mostarsko blato	Lištica, Mostar	65.3	HZ HB Electric Utility Mostar
Small Power Plant Vitez-1 LLC Vitez	Small Power Plant Vitez 1	Lašva, Vitez	1,2	HZ HB Electric Utility Mostar
Hidroelektrana Buk LLC Široki Brijeg	Small Power Plant Buk	Lištica, Široki Brijeg	0,14	HZ HB Electric Utility Mostar
Mala hidroelektrana Zagradačka LLC Prozor - Rama	Small Power Plant Zagradačka	Zagradačka, Prozor-Rama	0,8	HZ HB Electric Utility Mostar
ECCO-CRIMA LLC Prozor	Small Power Plant Crima	Crima, Prozor-Rama	1,27	HZ HB Electric Utility Mostar
Ing-Eko LLC Prozor-Rama	Small Power Plant Duščica	Duščica,Prozor-Rama	0.51	HZ HB Electric Utility Mostar
ERS- ZP Hydro Power Plant on the Vrbas, Mrkonjić Grad	Hydro Power Plant Bočac	Vrbas - Jezero Bočac, Banja Luka	110	Republika Srpska Electric Utility Trebinje
ERS- ZP Hydro Power Plant in Višegrad	Hydro Power Plant Višegrad	Drina, Višegrad	315	Republika Srpska Electric Utility Trebinje
ERS-ZP Hidroelektrane on the Trebišnjica Trebinje	Hydro Power Plant Trebinje I	Trebišnjica, Trebinje	180	Republika Srpska Electric Utility Trebinje
ERS-ZP Hidroelektrane on the Trebišnjica Trebinje	Hydro Power Plant Trebinje II	Trebišnjica, Trebinje	7,6	Republika Srpska Electric Utility Trebinje
ERS-ZP Hidroelektrane on the Trebišnjica Trebinje	Hydro Power Plant Dubrovnik	Trebišnjica, Dubrovnik	210	Republika Srpska Electric Utility Trebinje
ERS-ZP Elektrobijeljina Bijeljina	Small Power Plant Vlasenica	Jadar, Vlasenica	0.9	Republika Srpska Electric Utility Trebinje

[33] Postrojenje MHE "Bogatići" u vlasništvu RS-a, akumulacija EPBiH

Owner	Name	River/Municipality	Installed Power in MW	Electric Utility Managing Electrical Grid
ERS-ZP Elektrobijeljina Bijeljina	Small Power Plant Tišča	Tišča, Vlasenica	2	Republika Srpska Electric Utility Trebinje
EPS, ZP Elektrodoboj Doboj	Small Power Plant Paklenica	Paklenica, Doboj	0.22	Republika Srpska Electric Utility Trebinje
EPS-ZP Elektrodistribucija Pale	Hydro Power Plant Mesići Nova	Prača, Rogatica	4.64	Republika Srpska Electric Utility Trebinje
Republika Srpska Electric Utility Trebinje /Bosnia and Herzegovina Electric Utility Sarajevo	Small Power Plant Bogatići[32]	Željeznica, Trnovo	7	Republika Srpska Electric Utility Trebinje /Bosnia and Herzegovina Electric Utility Sarajevo
Bobar-taubinger elektrik LLC Brod on the Drina, Foča	Small Power Plant Bistrica B-5a	Bistrica, Dobro polje - Kalinovik	3.93	Republika Srpska Electric Utility Trebinje
Eling LLC Teslić	Small Power Plant Divič	Vrbanja, Kotor Varoš	2.28	Republika Srpska Electric Utility Trebinje
ERS male hidroelektrane LLC Banja Luka	Small Power Plant Sućeska R-S-1 i R-S-2	Sućeska, Strgačina - Rudo	3.03	Republika Srpska Electric Utility Trebinje
EHydro Power Plant LLC Banja Luka	Small Power Plant Novakovići	Ugar, Kneževo	5.77	Republika Srpska Electric Utility Trebinje
MEGA ELEKTRIK. Banja Luka	Small Power Plant Žiraja	Žiraja, Teslić	0.41	Republika Srpska Electric Utility Trebinje
OTEŠA male elektrane LLC Foča	Small Power Plant Oteša B-O-2	Oteša, Miljevina	0.99	Republika Srpska Electric Utility Trebinje
MEGA ELEKTRIK. Banja Luka	Small Power Plant Velika Jasenica	Velika Jasenica, Blatnica - Teslić	0.65	Republika Srpska Electric Utility Trebinje
E-promet LLC Kotor Varoš	Small Power Plant Grabovačka rijeka	Grabovačka rijeka, Kotor Varoš	0.78	Republika Srpska Electric Utility Trebinje
Small Power Plant Štrpci - Lalović Čedomir, Štrpci, Rudo	Small Power Plant Štrpci	Vodovodni sistem Goleš, Donja Rijeka, Rudo	0,06	Republika Srpska Electric Utility Trebinje
Eling male hidroelektrane LLC Teslić	Small Power Plant Ilomska	Rijeka Ilomska	4.80	Republika Srpska Electric Utility Trebinje
Hydro Power Plant LLC Banja Luka	Small Power Plant Zapeće	Ugar, Kneževo	4	Republika Srpska Electric Utility Trebinje
Elektros LLC Banja Luka	Small Power Plant Govza B-G-1	Govza, Foča	4.6	Republika Srpska Electric Utility Trebinje

3.1.1. Concession Licenses for Sale

The CIN investigation found that some businessmen or companies in the RS obtained concession licenses for building hydrodams so that they could trade in the license, not build hydrodems. CIN revealed that between 2006 and the end of 2011, only three of 112 power plants have been built. The concessionaires have given up on building and instead are seeking profits through negotiations with foreign buyers to sell their concessions.Some people profited through this.

[32] The RS owns MHE "Bogatići", but a lake is under the authority of EPBiH

CIN reporters found that irregularities have marred the project from the outset – including unplanned choice of building locations to wrong estimates of water capacity to not respecting a ban on sale of concessions.

The first concession was issued at the end of the term of former RS Prime Minister Pero Bukejlović. Others followed after Milorad Dodik took office in January 2006.

The RS Ministry of Economy, Energy and Development awarded concessions upon the proposal of the Commission for Concessions. That body is also supposed to oversee concessionaires. In their 2009 and 2010 annual reports commission suggested contracts with number of concessioners get terminated. The reasons included inactivity, poor business approach, lack of cost-effectiveness and difficulty of building.

However, the RS government headed by Aleksandar Džombić took steps only this year to rectify matters. The Ministry of Energy terminated contracts with six firms, and is negotiating dissolution of contracts with another 23.

Concessions for small hydroelectric power plants (up to 5 megawatts) have been issued for the period between 15 and 30 years, and firms could get them through sole-source procurement or by submitting their bids to public tenders. The companies were not required to attach bank guarantees and this led to most concessions being dished out to companies that lacked the money or expertise to construct energy facilities.

According to experts, the companies had to submit a technical and financial feasibility study based on the power-plant's capacity and expected profits from the sale of electricity. The commission and the ministry rubber-stamped these studies and later it turned out that some of them could not be carried out.

Ranko Goić, an expert on renewable energy at the University of Split, said that faulty estimates on the profitability and hydro-potential of rivers were made before the concessions were awarded. He explained that most of the locations would not pay off to build because the prices of electricity were still too low in the region. Nevertheless, according to data from the RS Energy Regulatory Commission, the government is about to adopt new tariffs, by which the hydropower plants from renewable energies should receive 0.12 KM per kW, compared to the current 0.08 KM.

The government also did not take into accounts the opinions of ecological associations which have opposed the plants. The ministry approved building at the area of Sutjeska National Park and other locations, for example, over the objection of municipalities. This is why the municipalities have not issued construction permits. Concessioners say they did not know what they were getting into and, so are selling their concessions instead of electricity.

The commission has warned in reports since 2007 that some firms got into the business in the first place with the idea of trading in concessions. At the end of 2009, the RS government issued a rulebook on the transfer of concessions. Until then, transfers were only possible only after construction was complete. Commission President Predrag Aškrabić said the government issued separate by-laws later that legalized earlier transactions.

Even though the government's decisions and the rulebook make no mention of financial compensation for concessions transfers, CIN found that concessionaires have made money through these deals. Neither concession sellers nor buyers wanted to go into details regarding the deals, but they said that 1MW usually sells between 100,000 KM and 200,000 KM.

Edhem Bičakčić, co-owner of a Sarajevo engineering firm Bičakčić, and Đuro Vujković of the Banja Luka engineering firm Energokomerc, say that the market price of a concession for which construction permit was obtained is 300,000 KM per 1MW. In other words, a firm with the concession to build a power plant of 5 MW can fetch a price of up to 1.5 million KM. Bičakčić added that even if a company did not have all required permits, the buyer could give a down payment on condition that the permit would be obtained by a deadline.

He explained that it was not the concession per se but the company itself that was being

Power station contractors have expressed intentions, but building locations on the Bistrica River remain empty. (Photo: CIN)

sold. He said he knew that some concessionaires asked for bigger amounts, but 'all current transactions that have been carried out and concluded were, more or less, at this level give or take 10 percent.'

Energokomerc has five concessions for building power stations. Vujković said construction has not yet started because of the death of the owner and because the capacities of the rivers have not been established.

In 2006, the RS government awarded Banja Luka-based Energetik the concession to build a 3.5 MW Medna plant on the Sana River. Four months later, the government passed a new decision that took the concession from Energetik and awarded it to a Banja Luka Energy MBA. This time the power was estimated at 4.9 MW. Ilija Klepić, the owner of Energetik, said that he never got an explanation for the government's decision.

The RS Official Gazette carried news of the decision on the change of concessionaires, but when CIN asked the Ministry of Energy about the change, officials responded that Energetik had never been given the license.

Energy MBA was founded in August 2005. The majority owner at the time was Arie Livne, a former adviser to Dodik and a member of RS Senate. Livne said that he thought in the beginning that this was a sound investment, but later in discussions with bankers he realized that it would cost too much and that he did not have the funds.

Energy experts CIN talked to said that hydro power stations require an investment of 2 to 3 million KM per MW, depending on the quality of material and equipment used.

A month and a half into the concession, the new owners of Energy MBA became: Nikola, Radenko and Miroslav Vukelić. Former owners Livne and Gordana Bošković transferred their ownership to the Vukelić brothers.

In August, the government decided that the concessionaire would be another Banja Luka firm, L.S.B. Elektrane, even though the contract between Energy MBA and the RS government stipulated that only after construction could the concession be transferred. Jelenko Lolić, an owner of Elektrane, explained that the two companies actually exchanged concessions. Energy MBA had already had three concessions on the Vrbanja River, a tributary of the Vrbas River, and wanted L.S.B. Elektrane to get the fourth.

Lolić said that construction of Medna turned out to be extremely expensive and demanding, which is why this March he sold the license to Interenergo, based in Ljubljana and owned by KI-Kelag International, an Austrian firm. Lolić said he put 1 million KM into the project. He

did not want to reveal how much he sold concession rights for, except to say that the amount is far lower than his costs.

Experts told CIN that the full costs of licensing prior to constructing a power station do not exceed 100,000 KM. Anton Papež, director of Interenergo, said that the owners of concessions have estimates that are not real and many get disappointed when they realize the cost of building.

The municipality of Ribnik where Medna was supposed to be built and the Ecology Movement Zelenkovac filed a lawsuit in 2009 to counter the environmental impact study published by the RS Ministry for Spatial Planning, Construction and Ecology.

Borislav Janković, a member of Zelenkovac, said that the station at the source of the river would destroy the pristine nature and beautiful landscape of the area. Investment in tourism would bring the local population more money. Papež said he was negotiating with other concessionaires in the RS. He refused to say what amounts was his company ready to pay for concessions, but he noted that offers for projects in initial phase can go as high as 200,000 KM per MW.

This March, Interenergo took over a concession for the construction of a 1.7 MW station at the Ugar river through its Banja Luka company. Initially, a Kneževo-based Metalotehna got the license in 2006. Vladimir Glamočić, the majority owner of Metalotehna, said he sold his concession rights because they could not get the money for projects even after securing a construction permit.

His uncle Ljubo was for 14 years a deputy minister at the RS Ministry of Energy, at the time the firm received a concession. He said his uncle helped only with the technical side of the project, and did not otherwise help secure concession.

He said that his only advantages were that he was a construction engineer, and his uncle has a Ph.D. in technical sciences.

Glamočić said that foreigners offer him around 200,000 KM per MW for a concession. But he did not want to reveal how much he had profited.

His company has two more concessions for building stations on the Vrbanja river. He does not hold a construction permit for them but will try to sell them to foreign investors.

3.1.2. Construction of Hydro Power Plant Mrsovo

The construction of a hydro power station Mrsovo was agreed between the RS President Milorad Dodik and a Russian investor Rašid Sardarov during a helicopter flight in July 2012. According to the third passanger in the helicopter, Sardarov's right-hand man in BiH Duško Perović, when they flew over the Lim River, nine kilometers downstream from the town of Rudo in the east of BiH, Dodik asked Sardarov if he wanted to invest there.[39]

Some forty days later the RS Ministry of Industry, Energy and Mining put out a public call for the construction of the hydro power plant. The call looked for a concessionaire to build and manage Mrsovo over the following 30 years. Three months later, in November, the ministry signed the concession contract with Sardarov's firm Comsar Energy Trading. The concessionaire paid a one-time fee of 123,750 KM and will continue to pay 2.6 percent from the annual revenue in electricity sales once the hydro power plant becomes operational.

The entity-run utility EP RS based its own construction project of the Mrsovo power plant on a 30-year-old blueprint. It would finance it with its own funds. The plan was collecting dust in a drawer until October 2011, when Serbia and Italy—with the approval and participation

[39] The Center for Investigative Reporting in Sarajevo: Russian Billionaire of Public Interest, published on Aug 5, 2014 http://www.cin.ba/en/ruski-milijarder-od-javnog-interesa/

The RS government representatives arrived at the ground breaking ceremony of the Mrsovo plant at the Lim River in Rudo. (Photo: CIN)

of the RS Ministry of Industry, Energy and Mining—reached a deal that guaranteed a higher price for electricity that came from renewable sources, reflecting higher investment costs. Italy lacks power from renewable sources, such as hydro power plants, so it's ready to buy it from Serbia and the RS, a BiH entity that uses just one-quarter of its hydro potential.

According to the agreement, Serbia and the RS should build 24 power plants—including Mrsovo—on their own or with investors' funds. Italy guaranteed to pay €155 per megawatt hour in the first 15 years of the plants' operation, which is nearly four times the market price in the region during 2013. After 15 years, Serbia and the RS will sell the power at the market prices.

Soon after the agreement was made, ERS made a plan for the start of construction at Mrsovo. Ten million KM was to go out over the following three years to buy land from private owners, for research and preparatory works and for setting up a firm that would hold the concession license. During 2012, the utility spent around 75,000 KM on the blueprint and a feasibility study for construction of the hydro dam.

The plans of the public enterprise were thwarted by its founder- the RS government- which is run by members of the Alliance of Independent Social Democrats (SNSD), whose leader Milorad Dodik is also the president of the RS. If the electricity is sold to Italians at the price agreed upon, the plant will make 42.5 million KM a year. The RS will receive around 1 million KM in concession fees.

Milorad Dodik and Rašid Sardarov break ground for the Mrsovo hydropower plant in Rudo on June 23, 2014. (Photo: CIN)

3.2. Wind Power Plants

In 2013, started with work a small wind power plant - Moštre I – of the installed power of 30 kW. The construction of big wind parks that would give a significant contribution to the existing power resources have been the talk of the town for years.

According to CIN records, 34 wind power plants were planned to be built in BiH. The wind power plant at the Trusina Mountain near Nevesinje is the farthest in the process and should start producing electricity in the beginning of 2016. Had all the announced stations actually gone up, they would now be meeting one-third of the electricity needs of the country.

But the CIN has found that investors for more than half of the planned power plants hold no concession licenses – which are required by law before construction can begin. Those few that do have licenses are having a hard time collecting other required permits. Those are mostly small firms that develop wind power projects up to a certain point, then either sell them or try to join forces with firms that have bigger financial resources. Most have not succeeded at either.[40]

Zlatko Mandžuka, director of Eol Prvi, said that he found a strategic partner for the Trusina plant, which will comprise 17 windmills that could spin 51 megawatt (MW) of power. Investors say that with the north wind cooperating, they plant will provide electricity for 26,000 households.

It is the first wind power plant to which the EPBIH and NOS permitted to connect to the power grid. Mandžuka said that would happen next spring under a deal with the state-owned grid operator Elektroprenos BiH.

Omega Plus, a Belgrade firm that Mandžuka's daughter Mila owns incorporated Eol Prvi in Nevesinje in 2010. Two years later, the RS government gave it a concession license to build a wind power station good for 30 years. It is the only firm with a concession for a wind power plant in the RS.

In order to get the project going, Mandžuka gave 3 percent of the ownership in Eol Prvi to the municipality of Nevesinje. He now has asked the RS government to approve a give away 90 percent of shares in the concession company to a new partner. When this happens Omega Plus will keep the remaining 7 percent share. Mandžuka said that the whole investment is worth 150 million KM, while UniCredit Bank was going to put up 70 percent of financing.

Public companies have been announcing the construction of power plants for years, but there are no windmills on their sites.

The Power Utility under control of Bosnian Croats EP HZHB announced the start of its 55 megawatt wind power plant on the Mesihovina near Tomislavgrad in 2010. A year later, the Sarajevo-based EPBiH announced that it was starting the construction of a 48 megawatt wind power plant on the Podveležje near Mostar. It secured favorable loans for these projects from the German Development Bank (KfW) with state guarantees. A 138.5 million KM loan contract for Mesihovina was signed with the bank in the beginning of 2010 and a 126.8 million KM loan for Podveležje at the end of 2013.

EPBIH'ss Executive Director for Planning and Engineering Azra Hajro said that it was realistic to expect that Trusina, Mesihovina and Podveležje were going to be the first plants to actually produce electricity.

EPBiH signed a concession contract with the government of Hercegovina Neretva Canton) in March 2011. It said that a wind power plant was going to be finished by mid-2013. The government signed two contract annexes enabling EPBiH to stretch the construction deadline a year and half.

[40] The Center for Investigative Reporting: Megawatts from Wind Power Plants, published on April 22, 2014 http://www.cin.ba/en/megavati-iz-vjetrenjaca/

There's only a sign left at Mesihovina where ground was broken in 2010. (Photo: CIN)

The web page for EPBIH says that construction of the wind farm in Podveležje is going to start in 2014, while the power plant should begin operation in 2015. "If this is what the web site reads, than it definitely cannot happen," said Edib Bašić, a director of the Unit for Project Implementation in this state-owned company. EPBiH management attributed delays to its decisions. It put out a bid for procurement of windmills in 2011, then had voided it before the deadline for bids was reached.

Bašić said that the management made an inefficient move because all the conditions were not met to put out the call for applications. He said that the firm had neither a construction permit nor a license for connecting to the grid. Also, the procurement was to have been based on its own capital and on loans from the local banks, even though the international banks are offering much more favorable conditions. Later the firm turned to the German Development Bank KfW, but the procedure for securing a favorable loan took two years, said Bašić. "We expect that the construction could start in 2015," said Bašić, and that the power plant would becomes operational in 2016.

Amer Zagorčić, the cantonal minister of industry, announced the third postponement of the deadline for the building of wind farm in Podveležje due to the change in EPBiH plans. "I don't see what's at issue because they will have built the wind plant," he said.

EP HZHB is also late with construction of its wind power plant. The Mesihovina Project was introduced to the public in 2006, and a concession contract with Herceg Bosnia Canton (HBŽ) was signed three years later. In 2010 the then president of the BiH Federation Borjana Krišto broke ground for the project on the windy promontory above the Duvno Meadows.

Things have not moved as desired since then. CIN reporters visited Mesihovina but found no big construction and not even signs of a groundbreaking.

Project manager Dalibor Marinčić said that the EPHZHB had planned to finish the building by 2013, but that circumstances were not favorable. The first bid for procurement of wind tourbines was put out in the summer of 2012, but no one responded in more than a year. When a second tender was put out – one company bid. But it closed at the end of last year, and EPHZHB is now working on selection of a supplier, said Marinčić.

According to the loan agreement with the German Development Bank, EPHZHB was to start producing electricity from Mesihovina and paying back the loan by 2013. The bank has agreed to push back the loan grace period until the end of 2015. Marinčić is sure the wind power plant will have been built by then.

Every year NOSBiH does a 10-year projection of electricity production and publishes a list of energy projects under construction. The wind plants near Mostar and Tomislavgrad are not even included in this document, and they have not made it into the plan and the list of resources for the state grid in the next year. That means that they cannot be connected to the grid for at least another two years.

According to NOSBiH, 10 concession contracts for wind power plants construction in the FBiH have been issued. Some firms concluded the contracts with the cantonal governments as far back as 2008, yet have not started building. Herceg Bosna Canton granted the most concessions. "If we were to stick to the letter of law, we would have to break off 80 percent of the contracts," said Mate Šiško, deputy cantonal minister of industry. He said that would not happen "because the canton suffers no damages" for lack of construction.

FBiH firms must complete a complicated procedure and collect permits and approvals from at least 13 municipal, cantonal and the FBiH agencies to put up wind power stations. Marinčić said that for Mesihovina project they had to get 50 permits and approvals. Just to get one —a zoning approval—they had to get another 36 approvals, explained the engineer.

The situation in the RS is somewhat different. Mandžuka said that it was hard in the beginning, but once he had signed a concession agreement with the RS government, it was easier to collect the permits.

It is almost impossible to make projections about how much energy will come from a wind power station. That means that regulatory bodies must insure there are steady reserves of backup electricity. The number and power of wind power plants is also limited by the capacity of transmission lines in BiH. Most of the proposed projects are located in West Herzegovina, but the transmission network is not developed enough to meet the needs of wind power plants.

For this reason, the DERK stipulated two years ago that the transmission cap for wind power plants until 2019 will be 350 megawatts. The two entities agreed that the FBiH gets 230 and the RS 120 megawatts of that. Then the entity ministries for energy, industry and mining made a list of the future wind power plants to be connected to the grid. Apart from those on Trusina, Mesihovina and Podveležje, those to be built are also in the areas of Tomislavgrad, Livno and Kupres.

In January 2013, NOSBiH asked investors to send proposals on their connecting to the grid. Only Eol Prvi and EPBiH responded. Since NOSBiH did not review the latter's proposal by the date of its publishing of its 10-year projection plan of production, the EPBiH wind power plant has not made it in its next year projection.

According to the records from the entity regulatory agencies, the FBiH is supposed to buy power from wind plants at the guaranteed price of 153 KM per megawatt-hours and the RS will pay 165 KM.

Local power authorities buy renewable source energy such as wind power, paying for significantly lower prices than those set by the entity regulatory agencies while citizens and other customers shoulder the remaining amount. This amounts to 50 percent in the FBiH and to 66 percent in the RS. This money is being taken from the Fund of Renewable Energy that citizens and other customers pay through fees built into into their electricity bills.

Depending on which power authority they buy electricity from, citizens may contribute between 29 and 34 pfennigs a month for renewable sources. Apart from higher prices for electricity, the investment in wind power plants is more profitable in the RS due to the fact that the guaranteed purchase in the RS on those prices is to last for 15 years, whereas in the FBiH it is limited to 12 years.

Experts estimate that investments in wind power plants of around 50 MW of capacity at the current guaranteed prices should pay off in between 8 to 10 years. Apart from the investors, the other actors who make money from wind power plants are the unicipalities, cantons and the RS government, because they share the concession fees plus other special fees required of investors.

Current and Planned Wind Power Plants in BiH[41]

Owner	Name	Location	Status	Installed Power (in MW)	Begginng of Operation
Suša Commerc LLC Visoko	VE Moštre 1.	Visoko	Built	0.3	2013
Relaks LLC Vinjani, Posušje	VE Relaks	Oštrc, Posušje	Planned	30	2014
Eol prvi LLC Nevesinje	VE Trusina	Trusina, Nevesinje	Planned	51	2015
HZHB Electric Utility Mostar	VE Mesihovina	Mesihovina, Tomislavgrad	Planned	55	2015
Koncig LLC Posušje	VE Debelo Brdo	Debelo Brdo, Livno	Planned	54	2015
HB Wind LLC Livno	VE Orlovača	Orlovača, Livno	Planned	42	2015
Tomislavgrad-Kupres LLC Tomislavgrad	VE Baljci	Tomislavgrad	Planned	48	2015
Balkan Energy Wind LLC Livno	VE Mučevača	Livno	Planned	63	2015
VE Ivovik LLC Sarajevo	VE Ivovik	Tomislavgrad	Planned	84	2015
G&G Energija LLC Bihać	VE Derale	Bosansko Grahovo	Planned	87	2015
Bosnia and Herzegovina Electric Utility Sarajevo	VE Podveležje	Podveležje, Mostar	Planned	48	2016
Bosnia and Herzegovina Electric Utility Sarajevo	VE Vlašić	Vlašić, Travnik	Planned	50	2018
Vran-Dukić LLC Tomislavgrad	VE Gradina	Gradina, Tomislavgrad	Planned	70	2019

For example, based on a concession agreement that EPBiH signed in 2011, it has donated 1 million KM to be used for community development in Podveležje. Once the plant is complete, it will continue to pay 43,200 KM year for land use and will hand over 2.5 percent of all electricity it sells to be shared by the canton and the city of Mostar. Likewise, EPHZHB is going to pay 1.5 percent of the sale of electricity on Mesihovina to the accounts of Herceg Bosnia Canton, while he municipality of Tomislavgrad will receive 1 percent.

Marinčić said that this should amount to about 900,000 KM a year. Mandžuka said that the municipality of Nevesinje is going to make money two ways: on its share of profit in Eol Prvi and on the annual concession fee the firm pays. According to the contract, Eol Prvi is to pay 2.5 percent of its revenue into the RS budget. Seventy percent of this money will go to the municipality, the rest to the entity. According to Mandžuka's calculations, Nevesinje will make between 800,000 KM and 900,000 KM a year from Trusina.

[41] References: DERK, FERK, NOS

3.3. Solar Power Stations

The taxpayers are dearliy paying the solar electricity -- 10 times the market price. Such a sweet deal have 16 owners of solar power stations in the Federation of Bosnia and Herzegovina (FBiH).[42]

According to a CIN investigation, over the past two and half years solar power stations collected 1.82 million KM for 2,679 megawatts (MW) of electrical power. That would satisfy the energy needs of 300 of the 721,199 households registered in the FBiH.

The FBIH government established the high cost of renewable energy four years ago with a resolution. Meanwhile, the cost of energy has fell which does not influence the first round of privileged investors, but the new applicants who have yet to achieve such favorable selling terms. Investors have announced construction of more than 230 solar stations, while 30-odd have been built so far. Of those, 16 sell power at the subsidized price which makes the investment profitable. The rest are waiting to be subsidized.

The resolution on the use of renewable energy sources was adopted in mid-2010 during the term of Vahid Hećo, then FBiH minister of energy, mining and industry. It authorized the public utilities — Elektroprivreda BiH of Sarajevo and a Mostar Elektroprivreda HZ HB—to sign contracts on subsidizing the stations' owners for the following 12 years. Citizens and other customers are subsidizing renewable energy investors through fees built into into their monthly electricity bills: 30 pfennigs per a household. The fees end up on a special account which takes in more than 6 million KM a year.

Utilities pay for solar energy between 736 and 920 KM per MW depending on the station's power. The guaranteed price is made of a referential price paid by the power utilities in the amount of 81 KM per a MW, and the rest is paid from the renewable resources account. This makes it 10 times more expensive than a MW of power made from coal.

CIN found that the FBiH Parliament did not decide on the resolution even though energy is under its jurisdiction according to the FBiH Constitution. Also, the cost of renewable energy was not approved by FERK which is in charge of the pricing. Finally, the relevant ministry has no document to explain the methodology of this price determination. Yet the resolution was adopted.

News that solar power stations were profitable spread fast and already in 2011 and 2012, the Ministry had 110 projects for construction of solar power stations in its registry. The first kilowatts from the stations went to consumers in the beginning of 2012.

The owner Sadik Fatić and his son Selmir of a Kalesija-based Eko Energija built the first solar station in BiH. It took them two months to put up a 120 kW facility on the roof of a local sport center and it plugged into the Elektroprivreda BiH grid in March 2012. Selmir Fatić told CIN that he and his father have traveled to EU countries to learn a lot about solar power stations. Still, it was the BiH pricing that made them decide to invest 800,000 KM in the construction of the power station. They calculated in the beginning that it would take eight years for them to recoup their investment.

Last year they collected 112,000 KM for power sold to Elektroprivreda BiH. Considering that the production is 30 percent higher than expected, they will recoup their investment in just six years, said Selmir Fatić. For the other six years of subsidies they will profit handsomely. He added that the construction and maintenance of solar power stations is neither demanding nor expensive. Unlike owners of hydropower stations, they do not pay a concession fee. The Fatićis pay 1,000 KM in rent to the municipality of Kalesija for the use of the sport hall. So far they had no trouble in the station's operation, and Selmir Fatić said that they had little maintenance to do. "Some rain washes down what's left from birds and I cleaned a bit during the winter."

[42] The Center for Investigative Reporting in Sarajevo: Money for Sun; published Dec 6, 2014 at http://www.cin.ba/en/pare-ze-sunce/

The owner of Eko Energija Selmir Fatić said that it took two months to build a solar power station in Kalesija. (Photo: CIN)

Three months after the Kalesija station started operation, another solar station opened in Ilijaš near Sarajevo. Edhem Bičakčić, a former FBiH prime minister and director general of a Sarajevo-based power utilitiy Elektroprivreda BiH, built it on his estate. He owns a firm that designs and helps build renewable power sources. He had invested in a 10 kW micro station. Elektroprivreda BiH buys electricity from the power station for 920 KM per a megawatt. Bičakčić collected 12,300 KM last year.

He told CIN that the construction cost him around 40,000 KM, an investment he would have back in three years. Bičakčić registered with the ministry two more power stations of the same power in Kiseljak and Visoko and a slightly bigger one of 30 kW in Hodovo near Stolac. Asked if politicians had inside information about high subsidies and the profitability of the construction of solar power stations, he said: "There are people who avidly follow this and react faster than others, and the rest are jealous."

In 2012, Miro Tomas and his construction company Toming from Grude, built solar power stations in Grude and Stolac. Tomas told CIN that his stations are more technologically advanced than those of others. In comparison to other stations in BiH, most of which are located on the ground and are turned in one direction, Toming's collectors are perched on concrete poles and focus on the sun despite movement of the earth, which is why they produce more power.

Elektroprivreda HZ HB pays him 736 KM for a MW. His solar power stations each have a power of 150 kW. Last year he raked in more than 430,000 KM from them and he expects the same turnaround this year. Tomas invested more than 2 million KM in stations and expects to recoup that in seven years. Revenues show that this could happen sooner.

The current FBiH minister of energy, mining and industry FBiH Erdal Trhulj, who entered office in the spring of 2011, did not like the renewable energy pricing that he had inherited. "It's the same when you adopt a tomato resolution that you'll buy all produce during the year for 10 KM, while tomatoes on the market costs 1 KM."

The mandatory buyout of high tariffed electricity was set to 12 years so that the investors could recoup their money. But, the ministry's analysis show that this will happen between four and six years. The remaining time represents in effect a windfall for owners. According to Trhulj, some of them get rich in three to four years. Trhulj said that he has not found a document at the Ministry that would show how the price of the tariffs was calculated. Ministry officials explained to him, he said, that the price was based on "some experience" which was communicated at the meetings between Hećo and utility officials.

Hećo told CIN that the prices were based on regional experience "on several input

Tomings' solar panels are perched on concrete poles and are synchronized with the sun to produce more electrical energy. (Photo:CIN)

parameters." He explained that energy pricing was created by the ministry experts during his term when there was little interest for building solar power stations. He said that for those reasons they did not review the prices even though the cost of equipment for solar power stations has plummeted with the availability of new cheap Chinese equipment.

His successor Trhulj said that he could not change the regulations that would deny the rights obtained by the owners of 16 solar power stations. "If you were to stop it now, later you would pay both tariff and interest," warned Trhulj about possible lawsuits.

However, the government could not continue with the resolution as it is either, because this would mean that it would subsidize renewable energy stations, including solar power stations, beyond its annual budget of 6.5 million KM. The citizens and other customers would have to shoulder up to five KM in price difference. The government needed to modify the existing resolution and stop signing up new investors or risk bankrupting the budget for the sake of high solar subsidies no longer justified by market realities.

In the beginning of 2012, the FBiH government introduced a procedure that would decide whether new applicants ought to be subsidized. New criteria for the use of funds were established which say that the money will go for subsidies only inasmuch as there is on the account. There was money for seven solar power stations of up to 150 kW, for 25 of up to 30 kW and for 50 micro solar stations of up to 10 kW. During the year already all slots for the big power stations of 150 kW were taken. Those are the most profitable ones for the investors, but the most expensive for the state.

These changes have halted the plans of potential investors, including the politicians. CIN learned that some of those interested in building the power stations of the same size were Adnan Terzić, former chairman of the BiH Council of Ministers, and Amer Jerlagić, president of the Party for BiH, while Ivica Jurčić, former member of the FBiH Parliament for the People's Party Work for Betterment, planned to build a 330 kW power station. All three said that the government's change of the resolution and the introduction of the new rules have thwarted their plans.

The government's new decisions have affected many of Toming's plans. Back in 2011, the company applied for licenses to build another 17 solar power stations – 14 in the business zone of Hodovo near Stolac and three in Grude, and it went ahead and bought land on which the construction was planned. All power stations would have 150 KW of power. It managed to build only two.

Solar Power Stations in BiH[43]

Owner	Name	Location	Installed Power (in kW)	Electric Utility that Manages Grid
Bičakčić LLC Sarajevo	SE Bičakčić 1	Donja Karaula, Ilijaš	10	Bosnia and Herzegovina Electric Utility Sarajevo
Elektro test LLC Sarajevo	SE Gornja Jošanica	Vogošća	9.9	Bosnia and Herzegovina Electric Utility Sarajevo
GROS H&G LLC Sarajevo	SE Pretis	Vogošća	149.75	Bosnia and Herzegovina Electric Utility Sarajevo
EKO-SAN LLC Sarajevo	SE OŠ Meša Selimović	Sarajevo	23	Bosnia and Herzegovina Electric Utility Sarajevo
EKO ENERGIJA LLC Kalesija	SE Sportska hala Kalesija	Kelesija	120	Bosnia and Herzegovina Electric Utility Sarajevo
Subašić LLC Tešanj	SE Subašić	Jelah	11	Bosnia and Herzegovina Electric Utility Sarajevo
IVEX LLC Usora	SE Ivex	Usora, Žabljak	30	Bosnia and Herzegovina Electric Utility Sarajevo
ENERGY TRADE LLC Usora	SE Energy 1	Usora, Žabljak	127	Bosnia and Herzegovina Electric Utility Sarajevo
SV Energija LLC Tešanj	SE Lepenica 1	Tešanj	10	Bosnia and Herzegovina Electric Utility Sarajevo
Espro LLC Donji Vakuf	SE Espro 1	Bugojno	51.36	Bosnia and Herzegovina Electric Utility Sarajevo
BIOTECH LLC Busovača	SE Biotech	Busovača, Kačuni	9	Bosnia and Herzegovina Electric Utility Sarajevo
EMY LLC Zenica	SE Emy-2	Žepče	30	Bosnia and Herzegovina Electric Utility Sarajevo
SICON SAS LLC Tuzla	SE Sicon 1	Čaklovići, Tuzla	9.8	Bosnia and Herzegovina Electric Utility Sarajevo
REMEDIA LLC Tuzla	SE Ahimbašići 1	Klokotnica, Doboj Istok	22	Bosnia and Herzegovina Electric Utility Sarajevo
SOLIS LLC Lukavac	SE Solis 01	Lukavac, Poljice	132	Bosnia and Herzegovina Electric Utility Sarajevo
Bratstvo Gornji Vakuf-Uskoplje	SE Tele-com 1	Gornji Vakuf-Uskoplje	123	Bosnia and Herzegovina Electric Utility Sarajevo
GP TOMING LLC Grude	SE Hodovo 1	Stolac	148.7	HZ HB Electric Utility Mostar
GP TOMING LLC Grude	SE Krenica 1	Grude	148.7	HZ HB Electric Utility Mostar

[43] References: Operator for Renewable Energy Sources and Efficient Cogeneration, ERS, EPHZHB, EPBiH, FERK, RERS, FBiH Ministry of Energy, Mining and Industry, RS Ministry of Industry, Energy and Mining

Owner	Name	Location	Installed Power (in kW)	Electric Utility that Manages Grid
NSSN LLC Mostar	SE Vrelo Radobolje	Ilići, Mostar	8	HZ HB Electric Utility Mostar
MK Group LLC Stolac	SE MK Hodovo 1	Stolac	149.6	HZ HB Electric Utility Mostar
SolarMax LLC Mostar	SE Stolac 1	Stolac, Pješivac	149.8	HZ HB Electric Utility Mostar
Solik LLC Prozor-Rama	SE Prozor	Gmići, Prozor-Rama	149.46	HZ HB Electric Utility Mostar
IN SOLAR LLC Čapljina	SE IN SOLAR-TREBIŽAT	Čapljina	9.84	HZ HB Electric Utility Mostar
G.M.C. BiH LLC Orašje	SE G.M.C. BiH	Orašje	30	HZ HB Electric Utility Mostar
HE Energy LLC Stolac	SE Energy 1	Stolac, Pješivac	149.75	HZ HB Electric Utility Mostar
Veliko sunce LLC Stolac	SE Veliko sunce 1	Stolac	149.94	HZ HB Electric Utility Mostar
ESCO ECO ENERGIJA LLC Livno	SE Gradska toplana Livno	Livno	78	HZ HB Electric Utility Mostar
Auto in LLC Prnjavor	SE Prnjavor 1	Prnjavor	27	Republika Srpska Electric Utility Trebinje
Titanium Power LLC Kozarska Dubica	SE Solar 1	Kozarska Dubica	50	Republika Srpska Electric Utility Trebinje
Frattelo trade Banja Luka	SE Fratelo 1	Banja Luka	43	Republika Srpska Electric Utility Trebinje
Nestro petrol Banja Luka	SE BS Borik	Banja Luka	12.5	Republika Srpska Electric Utility Trebinje
Santing LLC Pale	SE Santing 1	Pale	49.68	Republika Srpska Electric Utility Trebinje
Santing LLC Pale	SE Santing 2	Pale	49.68	Republika Srpska Electric Utility Trebinje
Turn Key Project LLC Gornje Crnjelovo, Bijeljina	SE Crnjelovo 1	Bijeljina	10.12	Republika Srpska Electric Utility Trebinje
Banja Luka College LLC	SE VLS	Banja Luka	20	Republika Srpska Electric Utility Trebinje
Banja Luka College LLC	SE Glamočani	Banja Luka	10	Republika Srpska Electric Utility Trebinje
Oil Refinery Modriča	SE Rafinerija ulja Modriča	Modriča	110	Republika Srpska Electric Utility Trebinje

Tomislav Prkačin from the Construction Department of Stolac municipality says that more than 70 firms bought land in Hodovo to build solar power stations. Five stations each of 150 kW have been built. Along with Toming, Stolac-based Solar Max and MK Group are also raking in high subsidies. Another two Stolac-based companies – HE Energy and Veliko Sunce – sell power at a price 10 times lower. These firms have applied for subsidies. Companies that sell power at the privileged price will sell at the low price too eventually – when their contracts have run out. Tomas says that such price is not sufficient even to cover for the costs of securing his two stations.

New possibilities for Toming and other companies opened with the passage of new solar energy laws in spring of 2014. At the same time, the office of Renewables Operator was opened in Mostar. The public utilities have conferred their right to sign contracts and pay subsidies to the office. The law had done away with the limits for signing of new contracts, while the FBiH government adopted in May an Action Plan for Utilization of Renewables until 2020. In the beginning of summer, the government set the new energy pricing at a rate between 30 and 40 percent lower than the earlier ones. This time FERK was involved in the price setting.

According to the plan, the government plans to subsidize 12 MW of solar power stations over the next six years, which is 10 times more than last year. Trhulj announced a new government policy to subsidize more than previously micro power stations built on households' rooftops. The plan shows that one-third of the projected capacities have been reserved for them, while the rest is planned for 150 kilowatts and higher power that are the most profitable for investors.

The owners of solar power stations in Republika Srpska (RS) only started receiving power subsidies since March 2014. Ten power stations enjoy that privilege at the moment.

The contracts will run out in 15 years, while the prices are 40 percent lower than in the FBiH.

Despite this, interest in solar power stations has existed for some time, but red tape was more complicated than in the FBiH. Investors in the RS frequently build such facilities on buildings because the contract is more favorable than if they are installed on ground. However, until May of last year, only those with a concession were eligible for subsidies. The RS Law on Renewables and Efficient Cogeneration was adopted last May and it threw out the need to obtain concession licenses for power station of less than 250 kilowatts, say RERS officials.

4. BIH Obligations toward the Energy Community

Bosnia and Herzegovina is a contracting party to the Treaty Establishing the Energy Community[44] that went into force July 1, 2006. The seat of the Secretariat is in Vienna. This treaty established the biggest internal market in the world for electrical power and natural gas with the EU on one side and the following eight contracting parties on the other: Albania, BiH, Montenegro, Kosovo, Macedonia, Moldavia, Serbia and Ukraine.[45]

Any EU member state may obtain the status of a participant and win the right to attend the meetings of the Energy Communities insittutions Those 19 EU countries participating now are: Austria, Bulgaria, the Czech Republic, Finland, France, Greece, Croatia, Italy, Cyprus, Latvia, Hungary, the Netherlands, Germany, Poland, Romania, Slovakia, Slovenia, Sweded and the United Kingdom. They are directly involved in the work of the Energy Community's institutions, and are represented by the European Commission during voting.[46]

The following hold observer status in the institutions of the Energy Community: Armenia, Georgia, Norway and Turkey.

The contracting parties have committed to developing a regulatory framework and to liberalizing their energy markets. This is to be achieved by gradual implementation of EU directives and resolutions on electrical energy, natural gas, environment, competition, renewables, energy efficiency, oil and statistics.

On Oct 13, 2013, the Energy Community extended the treaty which was to expire in July 2016 by another 10 years.

Acquis, that is the accumulated legislation, legal acts, and court decisions which constitute the body of European Union law, has been developed since 2005. Its core are directives which regulate the internal market in electrical energy and natural gas. These are supplemented by the legislation on free movement of good, persons and capital, as well as the legislation on environment, competition and renewables.

Acquis, that is the accumulated legislation, legal acts, and court decisions which constitute the body of European Union law, has been developed since 2005. Its core are directives which regulate the internal market in electrical energy and natural gas. These are supplemented by the legislation on free movement of good, persons and capital, as well as the legislation on environment, competition and renewables.

BiH is confirming its commitment to the reform of energy sector, liberalization of the energy market and harmonization of its policies with the EU member countries by taking an active role in the Energy Community. Still, on various levels, BiH needs to make and additional effort. It has missed numerous deadlines and in danger of missing more.[47]

[44] Decision on the ratification of the Treaty; BiH Official Gazette – International Contracts, issue 09/06 published Aug 25, 2006.

[45] The list contains the names of contracting parties as of Dec 31, 2013.

[46] DERK: http://derk.ba/ba/legislativa/energetska-zajednica accessed on Jan 19, 2015

[47] DERK's 2013 end-year report.

4.1. Liberalization of Market

The open energy market is a logical consequence of liberalization world-wide but particularly in Europe, and hence of passage in BiH[48] of the Law on Transmission, Regulatory Body and Independent System Operator of Electrical Energy April 18, 2002. This is intended to ensure free trade and continued supply of electrical energy in BiH.

DERK passed a resolution on gradual opening of the market starting on Jan. 1, 2007, and ending Jan. 1, 2015. In this resolution, the status of a qualified buyer of electrical energy can achieve:

- all buyers with an annual electricity production bigger than 10 GWh, starting on Jan 1, 2007
- all buyers with an annual electricity production bigger than 1 GWh, starting on Jan 1, 2008.
- all buyers except those from household category, from Jan 1, 2009.
- all buyers of electricity from Jan 1, 2015.

In the beginning of 2015, households as well as big consumers obtained the right to choose an energy supplier. They can pick the firm and the offer that suits them best. In this way, three power utilities operating in BiH formally relinquished their monopoly in the retail sale of electricity to small consumers.

It is unclear how liberalization is progressing. Households will not have to change their connection to the grid and they'll be connected to the same transmission lines. The price of electricity will certainly be one reason to change operators, because the quality of power will remain the same. According to the regulations, the households can change suppliers as many times as they want.

[48] Strategija razvoja energetike FBIH ili neki izvještaj DERK-a

5. Power Trading

In accordance with DERK's Rulebook on Licences,[49] the Register of Licensed Energy Traders was established in order to monitor the single energy market in BiH.[50] The register relies on the information on trading licenses provided by regulatory bodies in BiH (DERK, RERS and FERK).[51]

Twenty-seven 27 energy traders do business in BiH of which 23 have DERK's license for international trade. According to records from the Indirect Taxation Authority in BIH (UIO), the country has seen 23.4 billion KM worth of energy transactions between 2006 and April 2014. The bulk of those are related to the energy transactions inside BiH, while around 3 billion KM worth of power has been exported.

Three government-owned power utilities have done the bulk of the trading, followed by Serbian-owned private companies, a Banja Luka-based Rudnap and a Bileća-based Energy Financing Team.

[49] BiH Official Gazette, issue 87/12, from Dec 5, 2012

[50] For the Register of Energy Traders see http://www.derk.ba/DocumentsPDFs/Registar-trgovaca-lat.pdf

[51] Records from DERK: http://www.derk.ba/ba/registar-trgovaca-el-energijom, accessed on Jan 18, 2015.

5.1. EFT – A Case Study

Former managers of a power utility burned their fingers on the power they sold to the Energy Financing Team (EFT) group. There's a chance they will find themselves accused of abuse of office for shortchanging the public company of around €4.1 million.[52]

According to the records collected by Financial Police of the Federation of Bosnia and Herzegovina (FBiH), the heads of the Sarajevo-based Public Company "Elektroprivreda Bosnia and Herzegovina" (EP BiH) made a bad business deal in signing a contract to sell surplus power to EFT in 2009. At the beginning of last year, the police filed a report with the Cantonal Prosecutor's Office in Sarajevo, which started an investigation of the deal.

This was one in a series of investigations into the power trade with EFT, but is the only active one. Investigations were run earlier[53] against the managers of this and other power utilities in BiH suspected of harming their companies.

EFT continued to grow through these investigations. After a number of years of solely trading in power, it will soon begin to produce its own power, an endeavor the Republika Srpska (RS) government has supported.

Energy Financing Team is a group that deals in power trade and investments. EFT 's parent company is a Cyprus-based EFT Investments PLC. The biggest shares in the Cyprus company are held by Serbian-born businessman Vuk Hamović and his son Miloš.

In 2008, EP BiH put out a tender to sell excess electrical power for the coming year. EFT agreed to buy 613,200 megawatt hours at €83.53 per megawatt hour or €51.2 million. Half of the power was supplied by the end of the first half of 2009. Then EFT asked for a lower price since power prices had gone down in the world market.

Management at EP BiH accommodated by accepting EFT's rational that the price drop was a force majeure — even though that term as defined by the contract between the two, did not mention price decreases. Annexes were signed stating that the price of electricity would remain the same — but putting off a deadline for supply of the electricity to the end of March 2011.

According to FBiH Financial Police records, this power was not sold in the agreed time frame and there's a remaining 49,369 megawatt hours, worth around €4.1 million. In 2009, considering that it did not sell the agreed excess power to EFT, the power utility put out a new call for applications. EFT again showed up as a buyer. The power utility accepted its offer to sell 220,850 megawatt hours of power for €44.64 per unit. That is nearly half of the price they paid in the first half of the year.

Because of these controversial decisions by EP BiH management, the company lost planned revenue for 2009. The police filed criminal complaints against then director Amer Jerlagić, a six-member Board of Directors and a six-member Supervisory Board headed by Edhem Bičakčić.

The report said that the heads of EP BiH made the decision out of fear that EFT would break the contract and put a financial strain on the utility. However, the same document said that EP was doing business with 22 firms trading power.

Former director Jerlagić said that they behaved like sound businessmen. He said the negotiations accommodated EFT, but just so that they could continue to sell electricity for a price that was more than double the production price in EP. Even though the Supervisory Board supported the management's decisions, Bičakčić told CIN that "The power utility could have secured the realization of the full contract and did not need to go into negotiations with EFT."

[52] The Center for Investigative Reporting in Sarajevo: High Voltage Business. Published on Aug 21, 2014. http://www.cin.ba/en/poslovanje-pod-visokim-naponom/

[53] The Center for Investigative Reporting in Sarajevo: British, American and Balkan Authorities Look at EFT http://www.cin.ba/en/eft-u-fokusu-interesovanja-sad-velike-britanije-i-bih/, accessed on Dec 10,.2014

EFT's power plant in Stanari will produce more electricity than the power of all seven existing hydro power plants owned by a Mostar-based power utility. (Photo: CIN)

Bičakčić explained that EP did not have to be a hostage of the situation and that it could have charged the bank guarantee, while selling the power elsewhere.

He added though, that they were sympathetic to EFT as a long-term partner and so they allowed the delay in transport within "a reasonable deadline." He said that the maximum was up to a year. "I don't see that anything else was reasonable," said Bičakčić who was dismissed as leader of the Supervisory Board in March 2010.

According to Financial Police records, EFT twice in 2011 postponed collecting the remaining power, supposedly because there was no room to transport it over transmission lines. When it asked for the supply at the end of the year, the utility was not ready to oblige. An exchange of letters followed in which two firms tried in vain to agree on the sale of the remaining quantity.

Jerlagić said that nearly 50,000 megawatt hours have never been shipped. He said that his successor Elvedin Grabovica, the current EP director, had a chance to sell the remaining power for €84 per unit.

EP refused to elaborate on this or to discuss other bids for the sale of electricity. EFT did not want to comment.

Electrical power is one of the most sought after goods in Europe. BiH, along with Bulgaria and Romania in the Balkans have surplus electricity for export every year. A problem is that there is no way to store power for later use.

Countries in the region may have enough power, but because of draught or other disturbances, there can be sharp shortages of power. Such situations prompt power traders to buy electricity from power companies in places where there is excess and sell it to clients in countries lacking electricity.

Since its inception, EFT bought large amounts of electricity in the Balkans. The firm's officials say that they paid in cash and in exchange, got favorable prices. Then they sold for higher prices to other former Yugoslavian republics dealing with power shortages, such as Croatia and Montenegro.

Some of their deals with power utilities interested investigators. A 2003 special audit report for the High Representative noted that the management of EP RS sold power to EFT at under the market price. After the report, then high representative Paddy Ashdown sacked Svetozar Aćimović, the director general of the RS Power Utility, and Boško Lemez, a member of the EP RS's Board of Director, and the former minister of Industry Energy and Mining. The investigation was closed without filing indictment.

Preparatory construction work for building the Ulog power plant in the canyon of the Neretva was beset by numerous problems. Due to bad geological circumstances at the site where the dam was planned,, the contractors had to move it several hundred meters to another site, which might prolong the deadline for putting it into operation. (Photo: CIN)

EFT has sold power to the utilities too. For example, between 2000 and 2003, EFT and EP RS signed three contracts on the sale of power to the public company. The contracts show that the deadlines for the payment of shipped goods were shortened later. However, this has never been the subject of investigation.

Investigations did not slow EFT operations. After five years of wholesale power trading EFT starts with production in BiH. They have secured a concession to mine lignite at Stanari and are constructing the power station. EFT also is building a hydro power plant Ulog on the Neretva River at the northeast of Herzegovina which it plans to connect to the BiH power grid in 2017. The hydro plant should produce 82.3 gigawatt hours a year. EFT received building licenses last year and has constructed access roads.

The RS Commission for Concessions informed the public about delays with this project because EFT had problems buying the land and coping with nearby mine field. It also faces a problem connecting its future plant to the grid. EFT has approval to connect to Nevesinje-Gacko transmission lines which, so far, exist only in the Transmission Company's blueprints.

Still, EFT hopes to become a leader among the local power producers in BiH and the region in two years. A total annual output of EFT's power plants will be somewhat bigger than the annual production of one of the three power utilities – Mostar-based Elektroprivreda.

"For our business it is important to have access to our own power which we will be able to sell to the countries in the region facing deficiencies," EFT wrote in a letter to CIN.

Sarajevo power expert Željko Določek said that EFT will not benefit from selling power in BiH: "Why would they sell in BiH when they can sell in Croatia where the power is much more expensive?" According to European Commission's data, the price of power in BiH is among the lowest in Europe.

During the first 10 years EFT will spend more on producing power compared to local power utilities, but it will be competitive on other Balkan markets. EFT's power will be more expensive, because it has to pay back the loan for Stanari Power Plant.

EFT was established in 2000 to sell electricity internationally. It has grown into a group of 16 members that trade in power across 21 European countries. The parent company is registered in the well-known offshore zone of Cyprus as EFT Investments.

Second to the parent company is a London-based EFT International Investments Holding Ltd. which controls the property, including the shares, and manages the group's investment portfolio. It owns shares in 14 companies including three in BiH: EFT – Mine and Power Plant in Stanari; EFT Ulog in Kalinovik and a Bileća-based EFT which has a license to trade in power.

All firms in the EFT Group trade in power except for those two in Kalinovik and Stanari. EFT Group's 2012 financial statements show that the total shares of the British holding company in the subsidiary companies amounted to around €255 million.

6. Conclusions

BiH along with Bulgaria and Romania are the only countries in the region that produce excess electricity. BiH is rich in natural resources needed for the production of electricity; it has coal, water and a favorable climate. For BiH, renewable energy has been a significant source of overall energy production Almost every year, a surplus of electricity is produced in BiH. However, obsolete coal power stations are polluting the environment

The energy sector of BiH is controlled by the entities and by private interests that are building energy facilities. Over the past 30 years, the government-owned power utilities have not built any significant facility. Building generator 7 of the Tuzla coal power plant should be the first in years. The entities are transferring natural resources to private businessmen who are mining ore, building coal, hydro, wind and solar power plants.

Currently, natural resources can be harvested after obtaining a concession license which regulates the circumstances and the time period for the use of resouces.

CIN found that the authorities are granting favors in the construction of energy facilities to individuals. Even though the country's natural resources are at stake, the negotiations and implementation of some projects are taking place far away from the public eye because the authorities do not allow access to concession agreements or contracts on the trade in electricity.

With regard to meeting the commitments that BiH agreed to when it joined the European Energy Community, much remains to be done: older power plants need to be overhauled, pollution levels addressed and the energy market liberalized.

7. References

Reports, proceedings, studies.

1. Center for Environment in Banja Luka: "Expensive, Dirty, Poisonous Energy from Coal and its Dark Secretes", March 2014
2. State Electricity Regulatory Commission -- DERK's 2013 end-year report.
3. State Electricity Regulatory Commission -- DERK's 2012 end-year report.
4. Energy Institute "Hrvoje Požar" from Croatia; Soluziona from Spain; a Banja Luka Economic Institute and a Tuzla Mining Institute: Energy Sector Study in BiH; Nov 2008.
5. FBiH Ministry of Energy, Mining and Industry: "Strategic Plan and Program of Energy Sector Development in FBiH"; from 2009.
6. Independent System Operator in BiH: "Report on the Power Transmissions on the BiH grid for 2013"; from Feb 2014.
7. Independent System Operator in BiH: "Plans of Production Development from 2014 to 2023"; April 2013.
8. Independent System Operator in BiH: Plans of Production Development from 2014 to 2024"; April 2014.
9. FBiH Ministry of Energy, Mining and Industry: "FBiH's Action Plan for Utilization of Renewables"; May 2014.
10. FBiH Electricity Regulatory Commission: "Decision on Formula for Calculating Guaranteed Buy-out Price of Renewable Energy", July 2014.
11. RS Electricity Regulatory Commission: "2013 End-year report"; June 2014.
12. European Energy Community study, 2013.
13. Feasebility study of solar power stations Toming, Bičakčić, MK Group Stolac, Eko energija Kalesija, Energosol Mostar, SolarMAX Mostar.
14. RS Energy Development Strategy to 2030
15. Strategical Plan and Program of Development of Energy Sector in FBiH
16. Audit Office for the Institutions of the FBiH: "Report on the Audit of 2010 Financial Statements of EPBiH"
17. Audit Office for the Institutions of the FBiH: Performance Audit "Managing Concessions in FBiH", February 2011.
18. RS Government: RS Energy Development Strategy; Sept 2009.

Laws, rulebooks and decisions:

19. Criteria for the Use of Subsidies to Produce Power from Renewables, the FBiH Official Gazette, Issue 26/12.

20. Decision on the scope, circumstances and time distributioin of the liberalization of power market in BiH, Official Gazette, Issue 48/06 from June 26, 2006.

21. Decision on the Ratification of Agreement, BiH Official Gazette – International Agreements, issue 09/06 from Aug 25, 2006

22. Rulebook on the State Electricity Regulatory Commission's Licences, "Official Gazette BiH", issue 87/12 from Nov 5, 2012.

23. Rulebook on Monitoring Air Quality, "FBiH Official Gazette", issue 12/05

24. Rulebook on Air Qualty Caps, "FBiH Official Gazette", issue 12/05

25. Ordinance on Utilization of Renewables and Cogeneration, „Official Gazette FBiH", the issues: 36/10, 11/11 and 88/11

26. Ordinance on Production Planning and Utilization of Energy from Renewable Sources, "Republika Srpska Official Gazette" issue 2/14

27. Law on Power Transmission, Regulatory Agency and System Operator, "Official Gazette BiH", issues 7/02 and 13/03

28. Law on Concessions, "Official Gazette FBiH", issues 40/02 and 61/06 with buylaws

29. Law on Electrical Power, "Official Gazette FBiH", issues 41/2 and 61/06

30. Law on Environmental Protection in FBiH, "Official Gazette FBiH", issues 33/03 and 38/09.

31. Law on Nature Protection, "Official Gazette FBiH", issue 33/03

32. Law on Air Protection, "Official Gazette FBiH", issue 33/03

33. Law on Concessions in HBŽ, "HBŽ Official Gazette", issues 14/3 and 8/08

34. Law on Renewable Sources of Energy and Efficient Cogeneration in the RS, „Official Gazette Republike Srpske", issue 39/13

35. Law on Utilization of Renewables and Efficiant Cogeneration, "Official Gazette FBiH", issue 70/13

Web pages:

www.cin.ba

http://www.crhovrs.org/

http://www.derk.ba/

http://www.elektroprivreda.ba/

http://www.ephzhb.ba/

http://www.ers.ba/

http://www.ferk.ba/

http://www.fmeri.gov.ba/

http://www.nosbih.ba/defaultBos.html

http://www.rvp.ba/

http://www.savezenergeticara.org.rs/

http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mper/Pages/default.aspx

http://reers.ba/lat

http://operatoroieiek.ba/bs/

Other:

1. District Commercial Court in Banja Luka
2. District Commercial Court Doboj
3. District Commercial Court Trebinje
4. Ruling of the Supreme Court of FBiH, dated June 19, 2012 .(U-5/12)

About CIN

Ovu publikaciju su sačinili novinari Centara za istraživačko novinarstvo (CIN) iz Sarajeva. CIN was started in 2004 with a USAID grant and technical assistance and support from the New York University School of Journalism and the Journalism Development Group. Today, CIN is an independent media agency; its investigative pieces are regularly published by local and regional media in printed and electronic formats. CIN stories are published on major web portals in BiH and in the region, and the number of individual visitors on www.cin.ba is increasing. CIN work is available for free to all partner organizations that credit CIN as their source. For its work CIN received numerous journalism awards and certificates of recognition.[54]

The center cooperates with a number of distinguished media outlets world-wide and its stories have appeared in print form in the Guardian, Time, Der Spiegel, Washington Post and on radio and TV stations including ZDF, BBC, and Deutsche Welle. CIN work is regularly published by the most prominent media outlets of Serbia, Croatia and Montenegro. In addition, they are distributed through Radio Free Europe / TV Liberty. CIN has done much work with one of the leading associations of investigative journalists in the world – the International Consortium of Investigative Journalists.

The center also is a founding member of the Organized Crime and Corruption Reporting Project (OCCRP) which brings together independent investigative reporters and organizations throughout South East Europe and Central Asia on journalistic investigations.

The list of CIN awards: http://www.cin.ba/en/about/nagrade/