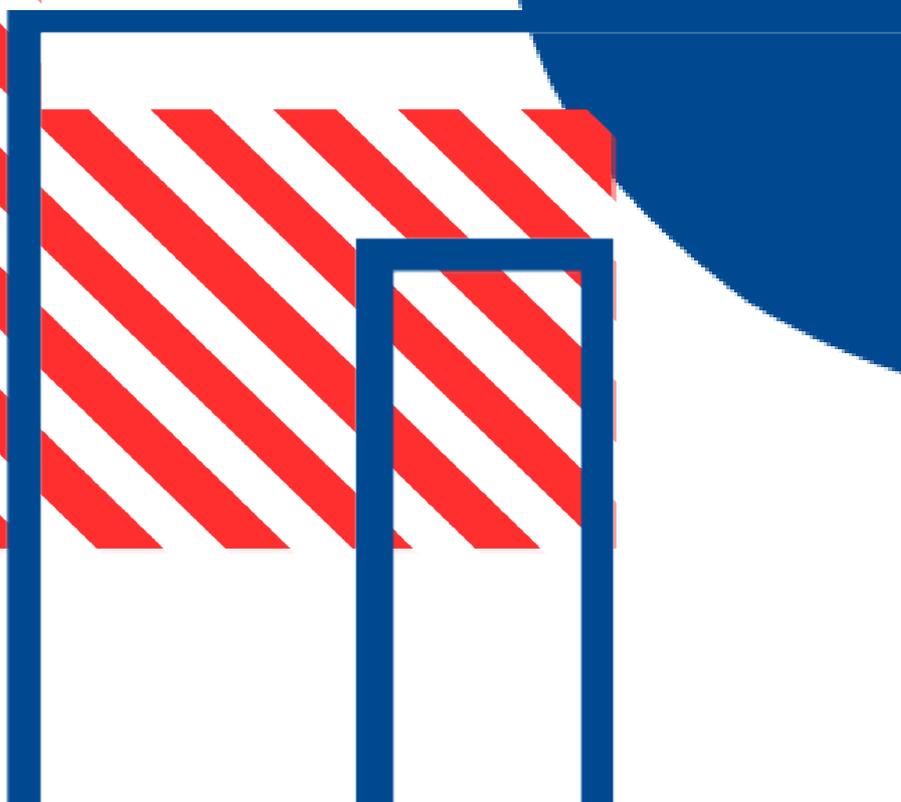
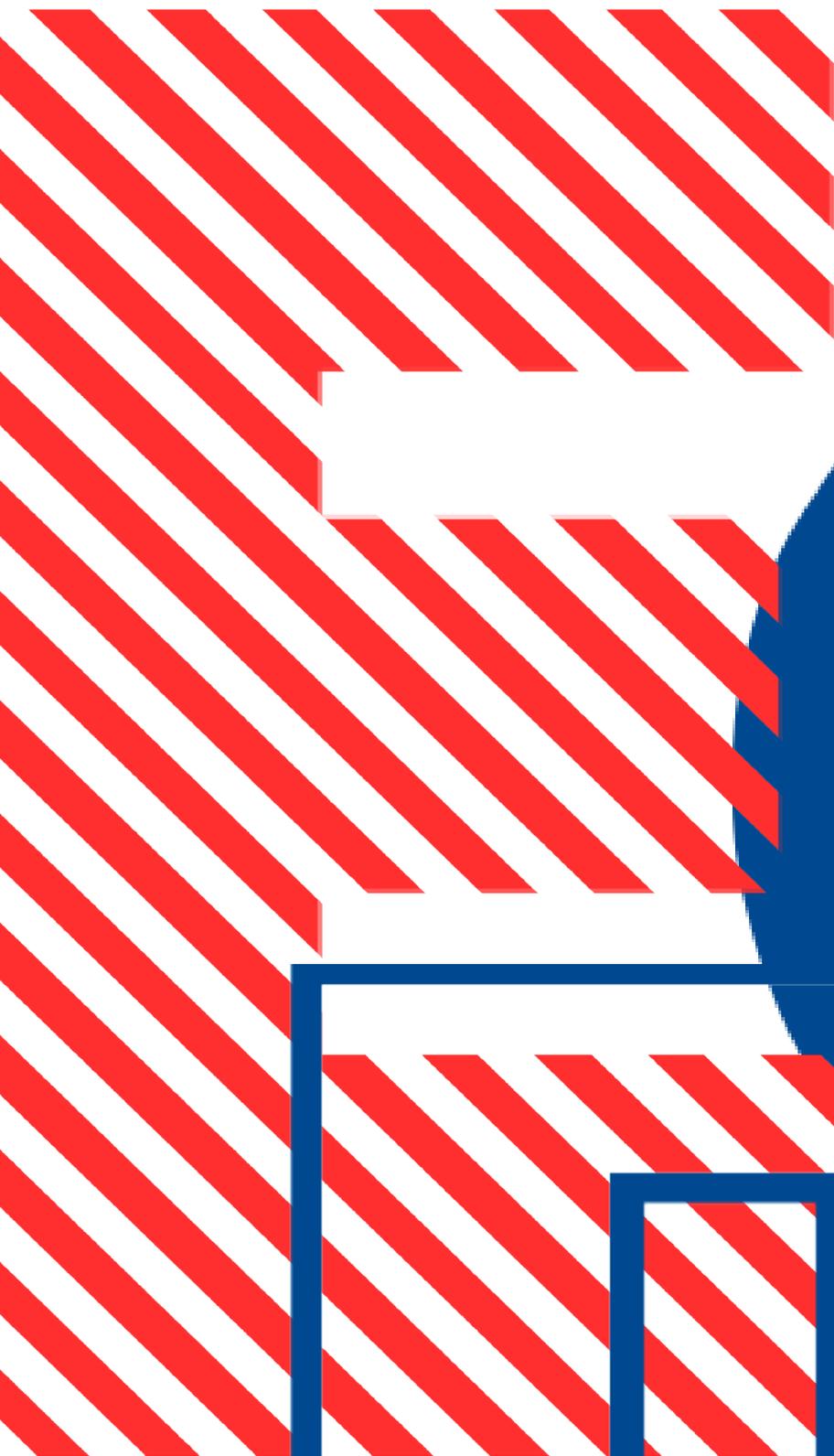
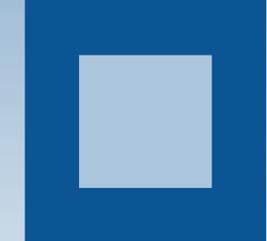
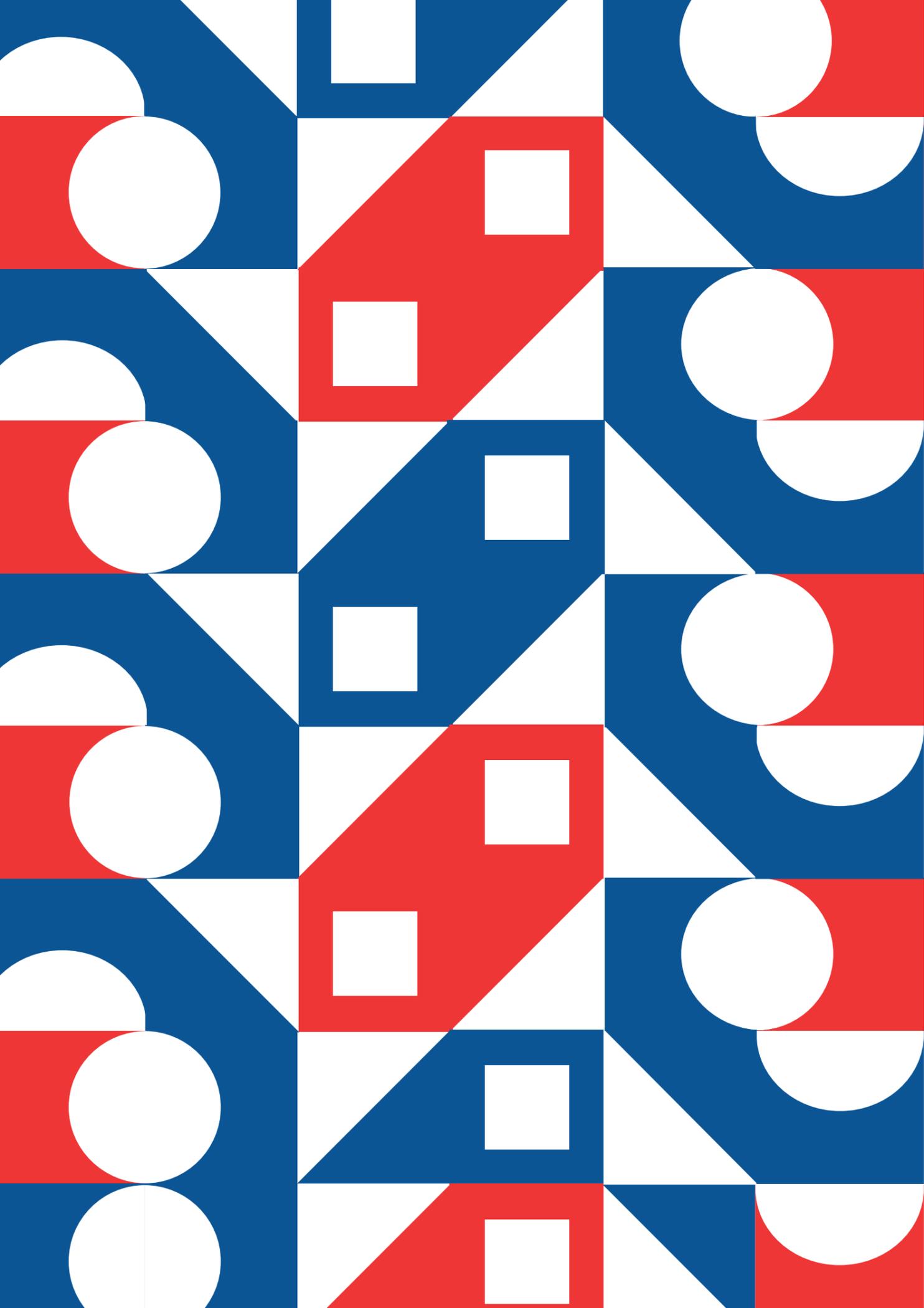


ELECTRIC POWER INDUSTRY OF SERBIA





ABOUT US

Public Enterprise Electric Power Industry of Serbia is the largest power company in Serbia. The core activities of EPS are electricity generation, supply and trading. Confirming that EPS represents one of the factors of Serbia's energy stability.

The main task of Electric Power Industry of Serbia is reliable electricity generation and supply for residents and economy under any circumstances and conditions. There is a constant improvement of each segment of EPS' complex system and business operation in order to meet this responsibility and keep the power system of Serbia stable at all times.

A strong investment cycle has been initiated and series of projects have been implemented, from the modernization of capacities and coal and electricity production processes to the construction of new facilities in accordance with all the environmental protection measures. Equally important is the customer care activity as well as the occupational safety and health of all employees. It is also aimed at achieving maximum profit from primary energy trading and reducing supply costs, providing balanced and optimized power portfolio. Integrated management system should increase company's business efficiency and support for the projects increasing the welfare of society should confirm its social responsibility.

As the largest system in the country, EPS is also one of the important drivers of Serbian economy, representing its backbone when it comes to both power and financial aspect. EPS provides around six percent of total state budget revenues, used to fund the pensions, hospitals and schools. In addition, Serbian economy is engaged in many EPS' projects thus securing the significant revenue from the business cooperation with EPS.

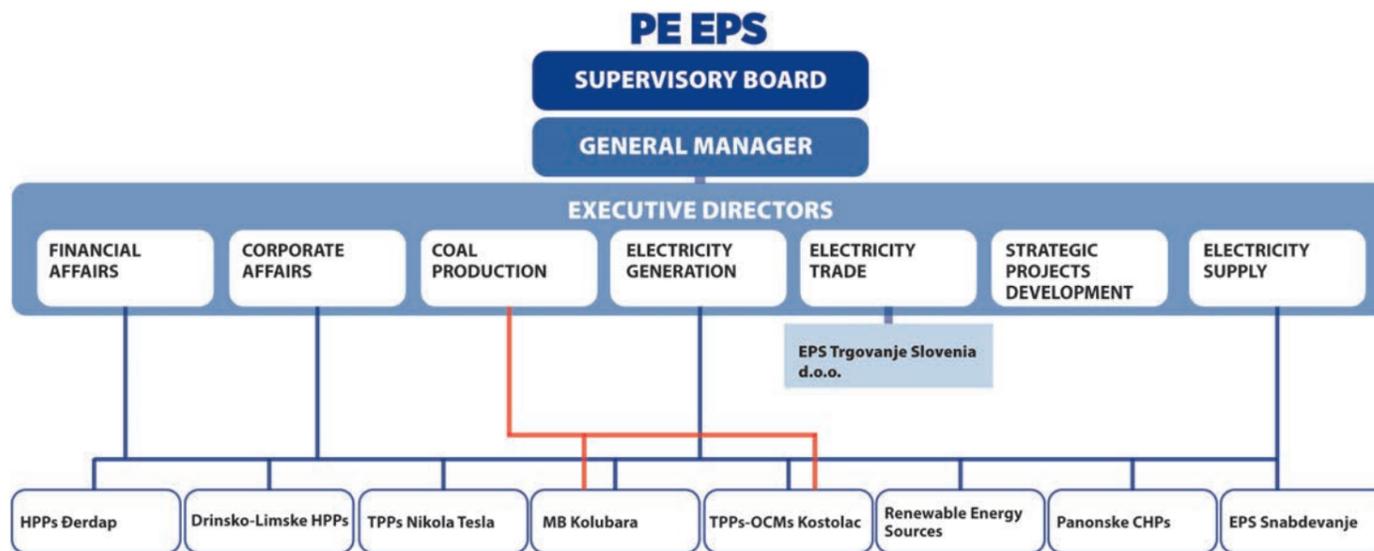
Today, Electric Power Industry of Serbia takes big steps forward with the clear vision of modern power company following modern trends. EPS is preparing for the power transition, for all the challenges of economic ecological production with the increase of energy efficiency and share of renewable energy sources, for all the changes that will contribute to more efficient business operation, with the imperative of preserving the energy stability and independency of the country.

In all the past years, EPS has been the backbone of development in Serbia, its precondition and confirmation. It will remain to be so in the future.

ORGANIZATION

Public Enterprise Electric Power Industry of Serbia is the power company. EPS system includes subsidiary EPS Trgovanje, d.o.o. Ljubljana.

Founder of PE EPS is the Republic of Serbia and the Government of the Republic of Serbia is the holder of founding rights. PE EPS is 100 percent owned by the Republic of Serbia.



Supervisory Board and General Manager are the bodies of Public Enterprise Electric Power Industry of Serbia. Members of the Supervisory Board and General Manager are appointed by the Government of the Republic of Serbia. PE EPS has seven executive directors appointed by the General Manager.

There are eight branches for electricity and coal production, including the branch for electricity supply within PE EPS organization. EPS has majority share of 79.1 percent in the capital of the company Kolubara – Građevinar, Lazarevac, as well as the majority share of 51 percent in the company HES Gornja Drina, Foča. EPS is also founder of the company Elektrosever d.o.o., Kosovska Mitrovica.

EPS also has founding rights in three public enterprises in Kosovo and Metohija. As of June 1999, EPS has not been able to manage its capacities in Kosovo and Metohija.



STRENGTH AND RELIABILITY

The complex system of Electric Power Industry of Serbia is based on lignite and electricity production. Thanks to the natural coal and water wealth, EPS can use those basic energy sources and provide reliable electricity supply with its production mix.

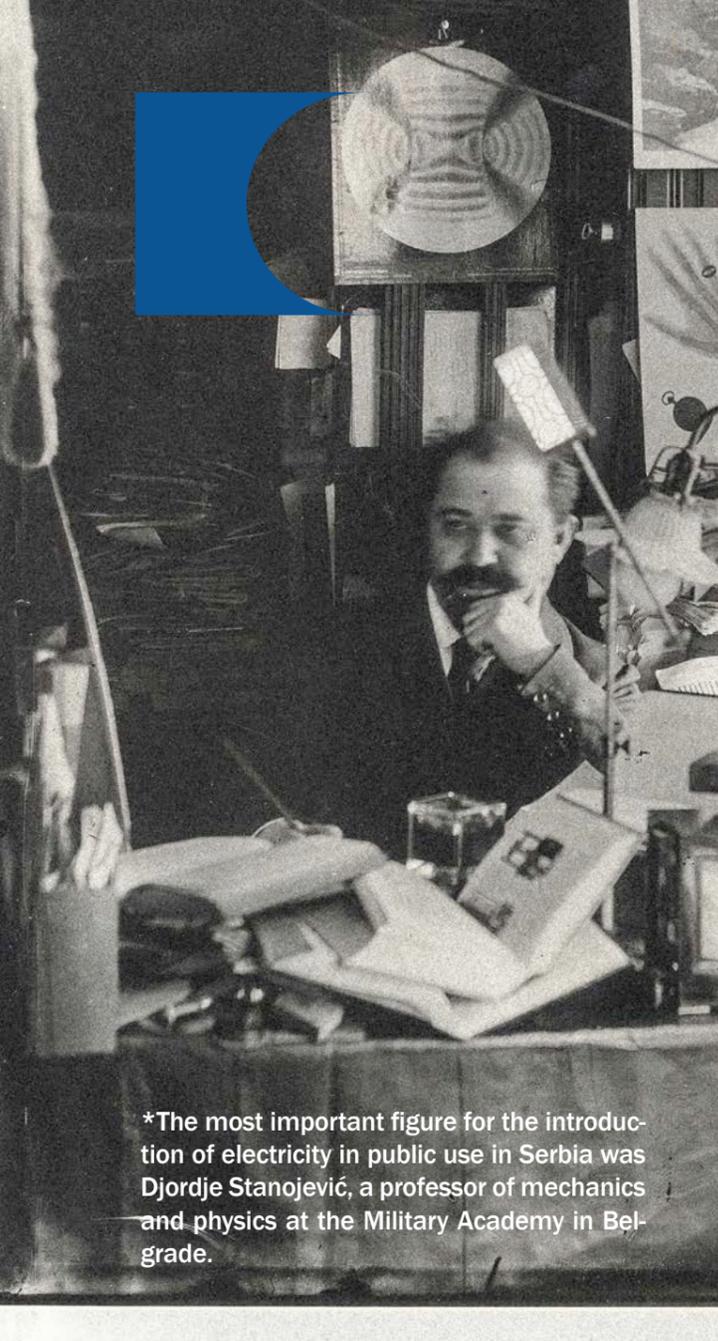
EPS invests great efforts into modernization of lignite exploitation, improvement of its quality and reduction of thermal power plants impact on the environment. Therefore, investments is the key word in EPS. Investments are made into large scope projects, in terms of importance and complexity, as well as the amount of invested funds. EPS invested around EUR 540 million into air, water and soil quality improvement. This has placed EPS at the position of the largest investor into environmental protection in Serbia. And with hydro power plants revitalization, EPS ensures that renewable energy sources production share in Serbia is maintained at high 30 percent. Precisely in that – to preserve energy safety and independence of Serbia through use of available sources while simultaneously following the imperative of modern civilization in renewable energy sources use, lies the strength of Electric Power Industry of Serbia.

EPS' power plants with 7,855 megawatts installed capacity generate around 35 billion kilowatt-hours annually. As a market-oriented company, EPS provides regular, safe and reliable electricity supply for about 3.6 million customers.

About 70 percent of electricity in Serbia is produced from lignite mined at the open cast mines of Kolubara and Kostolac mine basins. Between 37 and 40 million tons of coal is mined in Kolubara MB and Kostolac mine Drmno annually. With the modernization of mining capacities and mining production processes, with the opening of new mines with coal guaranteed quality and with the investments into the best mining machinery and technologies, EPS shows that it meets the requirements of the modern mining.

Around 25 billion kilowatt-hours of electricity are generated from lignite in the thermal power plants of EPS, in TENT and Kostolac TPP-OCM branches annually. The picture of today's EPS' thermal power plants differs significantly from the one from the beginning of their work. The operation of EPS' thermal power plants has been improved with revitalization and electrostatic precipitators installation. Flue gas desulphurization systems are being built as the largest environmental protection investments in Serbia, primary and secondary measures to reduce nitrogen oxide emissions are being introduced, air, water and soil quality protection projects are implemented, thus making thermal power plants environmentally justifiable electricity producers.

Electric Power Industry of Serbia manages its hydro power plants with special care. They represent the irreplaceable part of the power system. Not only as an important support and addition to thermal power plants operation, but as a renewable energy source.



*The most important figure for the introduction of electricity in public use in Serbia was Djordje Stanojević, a professor of mechanics and physics at the Military Academy in Belgrade.

TRADITION

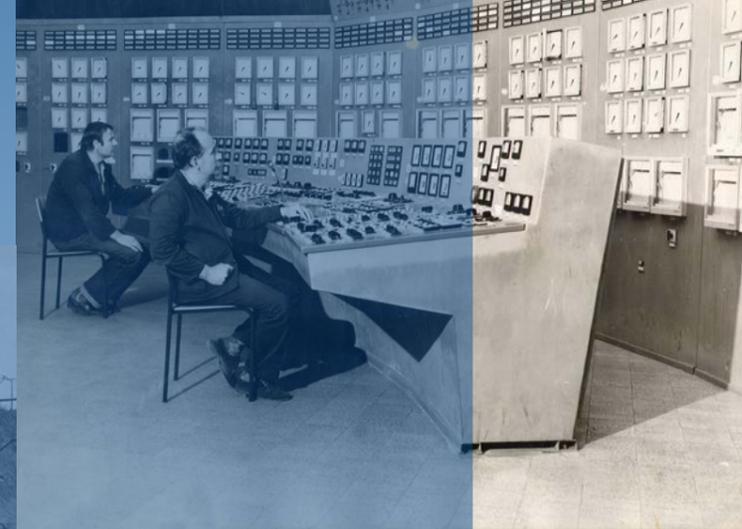
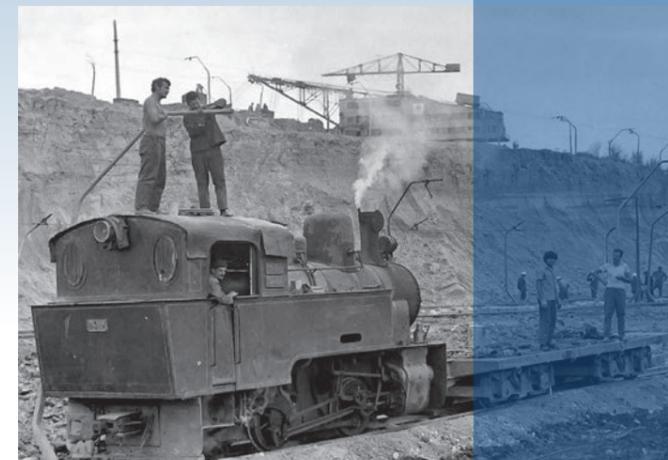
The beginning of the use of electricity for public purposes dates back to 1893, when the first public power plant in Serbia, the thermal power plant at Dorćol in Belgrade, began operating on October 6th. EPS marks this date as EPS Day.

The first lumps of coal were mined in Kostolac in 1870, marking the beginning of industrialization in Serbia. Underground coal exploitation in the area that will later include Kolubara basin started in Zvezdar pit in 1896.

Only four years after the construction of the hydro power plant in Niagara Falls, the power plant Pod gradom on Djetinja river in Užice, designed according to the system alternating currents of Nikola Tesla, started its operation in 1900. It was followed by hydro power plant Vučje, Sveta Petka, Gamzigrad and Moravica for the public lighting of Leskovac, Niš, Zaječar and Ivanjica. These five hydro power plants still operate within EPS.

Serbia entered the new era, after the Second World War, with only 143 MW capacity, but with the great enthusiasm and eagerness. The construction of power plants and mines started swiftly.

By 1955, thermal power plants Mali Kostolac and Veliki Kostolac and hydro power plants Ovčar Banja and Medjuvršje were built. The first units of Vlasinske HPPs were put into operation and the first one on Drina – Zvornik HPP. Surface coal mining in Serbia started in 1952 at Field A in Rudovci, the first daily mine in Kolubara. In 1956, Field B was opened and in the same year Kolubara TPP started operation.

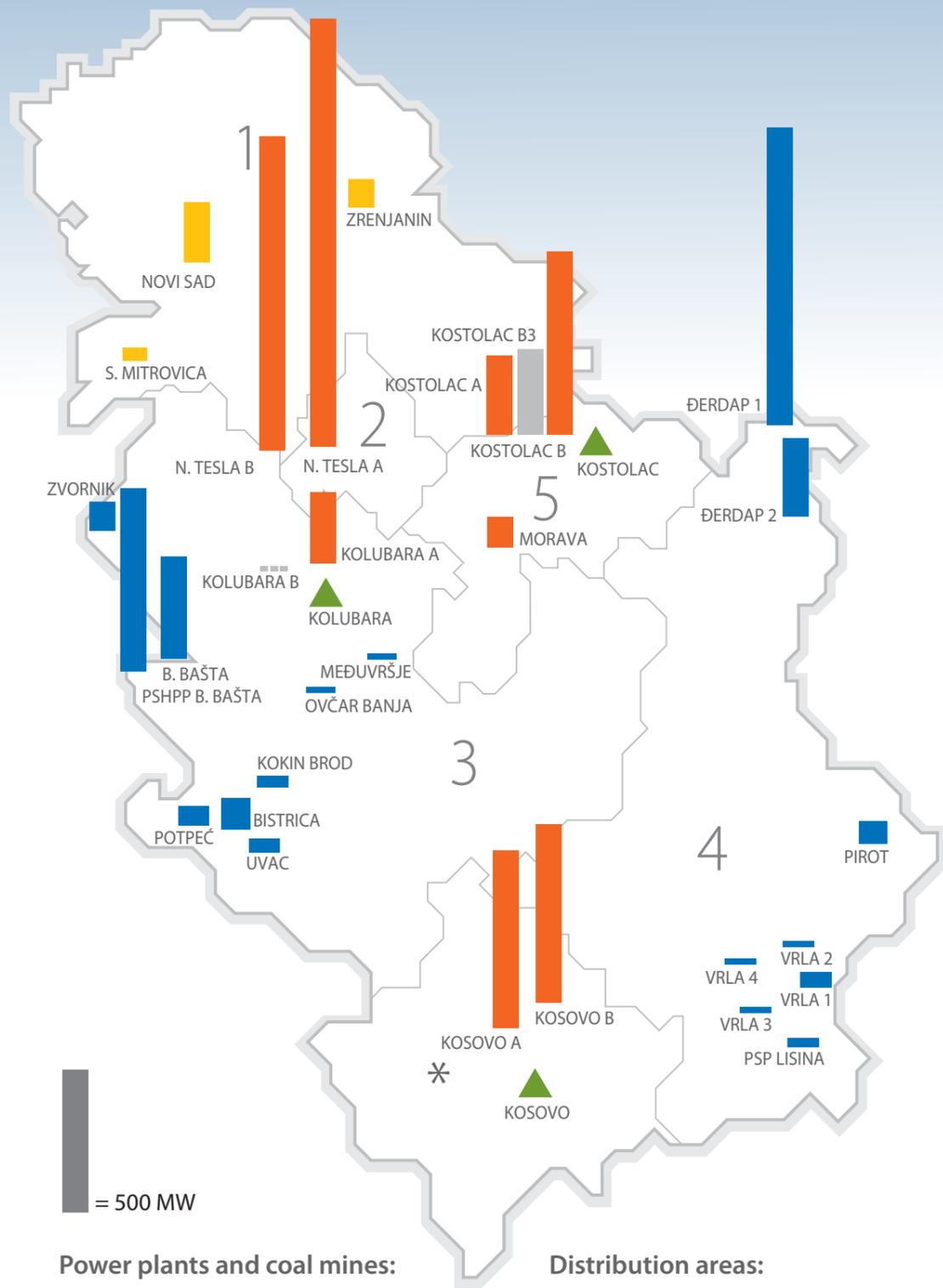


In the sixties, Bistrica, Kokin Brod and Potpeć HPPs were built in the basins of Lim and Uvac, and at the end of the seventies, Uvac as well. In the sixth decade of 20th century the powerful Bajina Bašta rose up at Drina river. Kolubara's famous Field D was opened, then the largest coal mine in the country, and the construction of Obrenovac power plants started. Kostolac A TPPs and Morava TPPs were put into operation.

Since 1970, EPS and Serbia's giants have been entering the power system – Nikola Tesla A TPPs and Djerdap 1 HPPs. TENT B has been operational since 1983, and Djerdap HPP since 1985. Serbian power system has been set on solid foundations.

This was followed by the construction of the precious pumped storage power plant Bajina Bašta on Drina river. Construction was underway in Kostolac as well: in 1987, Drmno basin started operation, and the following year Kostolac B TPP started operation. Pirot HPP was the last one built (1990), and since 1995 lignite has been mined from the most productive EPS open cast mine – Tamnava-West Field.





income from electricity sale in 2021



paid by EPS to the budget of the Republic of Serbia



of total revenues in the budget of RS originates from EPS



for investments in 2021



*data for December 31st, 2021

MISSION

Secure electricity supply of customers, under market conditions, with constant increase of service quality, improvement of environmental care and enhancement of community well-being.

VISION

Socially responsible, market-oriented and profitable company, competitive in the regional market following the highest standards of business operation and sustainable development, recognized as a reliable partner to domestic and international companies.



COAL PRODUCTION

Large reserves of lignite and favorable basin conditions, as well as the volume of electricity produced from the lignite determine the coal as the strategic energy source of Serbia. And the task of modern mining in Serbia is to provide economic and ecological coal production in the future also. This includes lignite mining modernization: managing quality, increasing energy efficiency, productivity and profitability of mining production and meeting all higher environmental standards and norms.

There is no replacement for coal. This is why EPS is firmly determined to keep up with the world in the field of electricity generation from coal and to introduce clean coal technologies.

The main resource for electricity generation in PE EPS' thermal power plants is lignite from Kolubara and Kostolac mine basins. The production is organized at the open cast mines of Kolubara Mine Basin branch and at Drmno mine from Kostolac TPPs-OCMs branch.

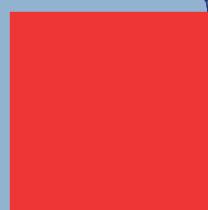
Coal produced in Kolubara mine basin provides for the generation of about 53 percent of electricity in EPS, and coal from Kostolac mine provides for additional 17 percent of generation.

OVERBURDEN

In order to reach the layers of coal, it is necessary to first excavate overburden, and about 100 million cubic meters of solid mass is excavated and deposited annually at EPS mines. Overburden is excavated and deposited with modern ECS (excavator-conveyor-spreader) systems. Stable and continuous overburden production is the first step in achieving good results in coal production.

Record

40.3 million tons
of coal in 2011



KOLUBARA MINE BASIN

Mines in the Kolubara basin give three quarters of lignite (75 percent) in Serbia. They produce about 29 million tons of coal annually. Based on that, about 50 percent of total annual amount of electricity is generated in Serbia. Coal from Kolubara is used in thermal power plants Nikola Tesla A and Nikola Tesla B from Obrenovac, that are about 40 kilometers far from each other, and in Kolubara in Veliki Crljeni and Morava in Svilajnac.

Kolubara coal basin is located in the western Šumadija, between Rudovci (east), Koceljevo (west), Stepojevac (north) and Slovac (south) and covers the area of about 600 square kilometers. The basin is elongated in the east-west direction, longer side 55 kilometers long and shorter side 16 kilometers long. Kolubara river separates the basin into east and west part.

In Kolubara mine basin branch, the coal is mined at four active pits: Field C, Field E, Tamnava – West Field and Field G, while Radljevo open cast mine is being prepared for opening and coal production has not started yet. The mines are located in the municipalities of Lazarevac, Lajkovac and Ub. They are organized as one technological and production unit, and the complex production process is spread over several organizational units with the series of plants for coal processing and mining machinery maintenance. Coal from the open cast mines from the east part of the basin is processed in coal refinement and separation plants in Vreoci, while the coal from the mines from the west part of the basin is crushed and sorted in Drobilana on Tamnava. Miners from Kolubara are also in Prerada, Drobilana, Suva and Mokra separacija, Klasirnica, Sušara, Pomoćna mehanizacija, Kolubara-Metal.



Bucket wheel excavators, powerful and massive machines with an average height of about 35 meters and weighing between 1,500 and 2,000 tons are digging coal and overburden at the mines of Kolubara MB.

After the end of exploitation on mine Field D, the main production in east part of the basin is transferred to Field C. In this part of the basin the coal is also being mined on Field E which has about 300 million tons of coal exploitation reserves and where, after reaching full capacity, about 12 million tons of coal will be produced annually. Tamnava-West Field OCM, with an annual production of about 12 million tons of coal, is the most productive Kolubara mine. The last opened open cast mine is Field G, where the production of lignite of excellent quality began in 2017. The open cast mine Radljevo is being opened.

Records

31,060,625 tons of coal in 2011

77,784,982 cubic meters of overburden in 2007





THE HISTORY

The turning point in coal production began in 1952, when the first open cast mine Field A was opened. Since 1956, when Field B was opened, mass surface exploitation of coal has begun, as well as the opening of new open cast excavations and coal processing and refining plants.

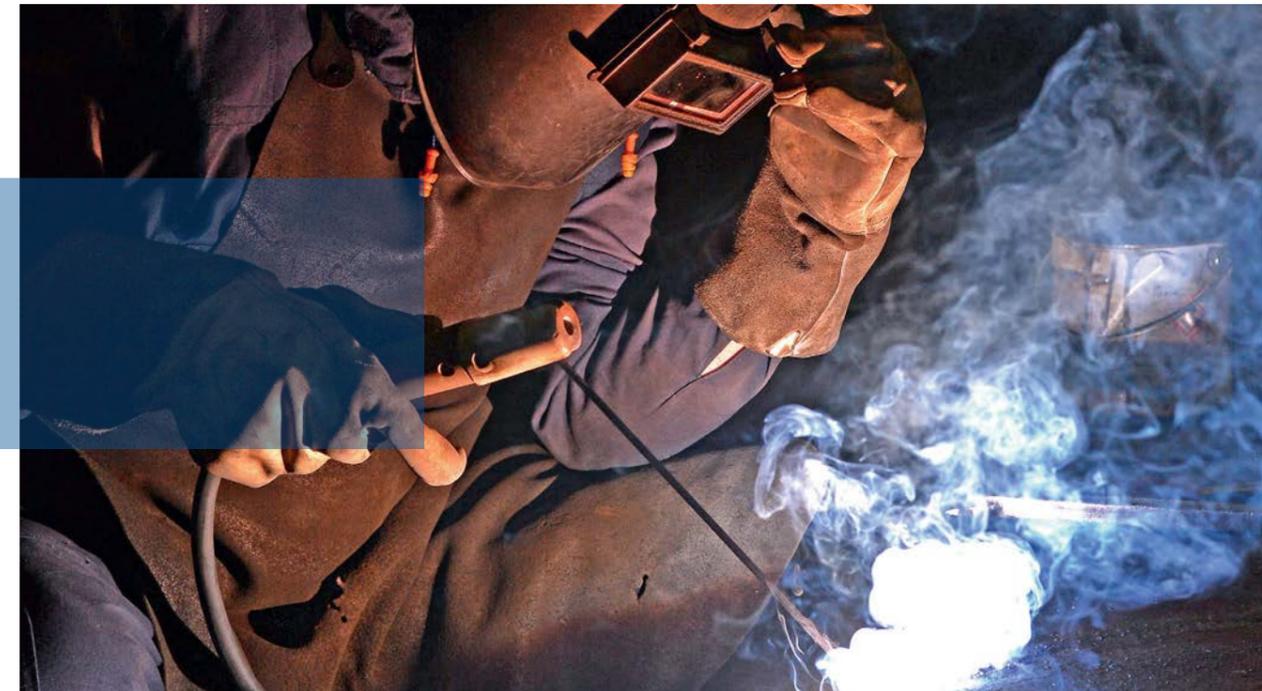
The first tons of crushed coal from Kolubara were delivered in 1956 to Kolubara TPP. Later, new coal mines were opened, and Kolubara followed the increasing needs of the power sector for coal.

PRERADA

Prerada is a separate branch in which coal processing takes place, as well as the refinement of raw coal from the open cast mines Field C and Field E of the Kolubara Mine Basin. This is necessary in order to obtain the range needed to supply thermal power plants, households and industry.

METAL

The organizational unit Metal deals with the design, production, installation, overhaul and maintenance of mining and energy equipment. The employees of this part of Kolubara are also responsible for the revitalization and modernization of basic mining equipment, as well as the production and arrangement of spare parts. Metal is very important for the good work of mines, since repairs and maintenance of equipment are a prerequisite for safe and continuous operation of mining machinery.



PROJECT

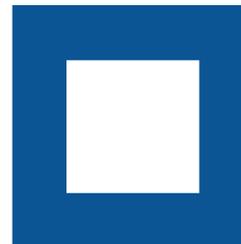
For 50 years, the experts of the Project have been preparing technical documentation for Kolubara MB in the field of geology, mining, architecture, construction, electrical engineering, mechanical engineering, economics and environmental protection. Their work starts from an idea, the investment study on the justification of the investment, to the design and obtaining of the necessary permits and the consent of the state bodies and the supervision over the construction.



OPEN CAST MINE DRMNO

Around 25% of lignite in Serbia is produced in Kostolac Basin. It is used by Thermal Power Plants Kostolac A and Kostolac B.

Drmno deposit is located in the eastern part of Kostolac Mine Basin, east of the Mlava River and covers an area of 50 km². The eastern and southern borders of the deposit are naturally determined by geological conditions. Northern border of the deposit is the Danube, although a coal layer is located under the Danube and it spreads towards the Kovin deposit. Drmno deposit is located at the depth of 50 to 80 meters below the Danube level and due to the specific drainage, it represents a unique technological system.



It's a small distance between coal production and electricity generation in Kostolac, thus OCM Drmno and Thermal Power Plants Kostolac A and Kostolac B operate within one EPS branch - Thermal Power Plants and Open Cast Mines Kostolac. The first quantities of coal from Drmno were transported towards TPP Kostolac B in 1987.

Averagely and on annual basis, nine million tons of coal and 40 million cubic meters of overburden are produced at mine Drmno. Due to the construction of a new Unit 3 at TPP Kostolac B a project is being implemented to increase annual production to 12 million tons.

Archaeological park Viminacijum is located in the immediate vicinity of the mine.

Records



9,657,301 tons of coal in 2017

47,006,801 cubic meters of overburden in 2020



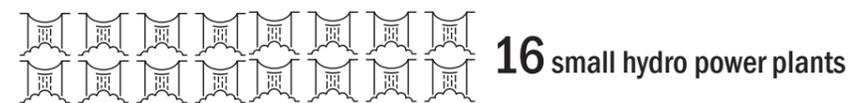
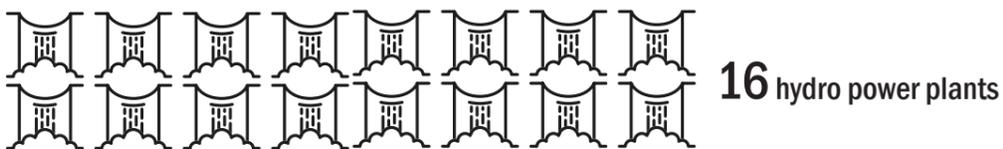


ELECTRICITY

EPS's "electricity factories", six thermal power plants and 16 hydro power plants, together with combined power plants and small hydro power plants annually generate around 35 billion kWh. Electric Power Industry of Serbia is the largest electricity producer in Serbia and the largest domestic supplier to both households and industry.

EPS generation mix secures energy stability and national independence and EPS achieves maximum profit from available primary energy with balanced and optimized energy portfolio.

PE EPS electricity generation capacities are the following:



7,855 MW - total installed power plants' capacity

35 billion kWh - average annual generation

*All data on average annual generation are for the period 2010-2020

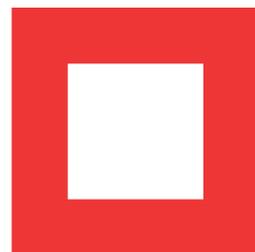
37,433 GWh - record generation in 2013

PE Electric Power Industry of Serbia has:

21 thermal units in TPPs and CHPs

51 hydro units

16 small hydro power plants



THERMAL POWER PLANTS



With 17 units in 6 thermal power plants, with the total installed capacity of 4,437 MW, thermal capacities of EPS annually generate around 70% of electricity. Lignite has been used as motor fuel thus making the thermal power plants and coal a core power of Electric Power Industry of Serbia. It is important for EPS that the plants, primarily thermal power plants, are competitive. Since only the companies that have their own generation will have a better perspective at electricity market.

EPS thermal power plants generated the most electricity in 2013 -

26,537 GWh





TENT

The branch Thermal Power Plants Nikola Tesla is one of the largest electricity producers in the South-East Europe. Almost half of EPS generation capacities is located in Obrenovac at TPP Nikola Tesla A and TPP Nikola Tesla B. TENT includes TPP Kolubara in Veliki Crljeni, TPP Morava in Svilajnac and Railway Transport for coal transport from Kolubara mines.

With 13 units of 3,340 MW installed capacity, TENT annually generates more than 50% electricity in Serbia.

EPS increases efficiency of thermal units, extends their life cycle and harmonizes their operation with EU environmental standards by modernizing and revitalizing them.



TENT A

By the capacity, it represents the largest capacity of EPS with six units of 1,766 MW total installed capacity. It is also the largest single electricity producer with average generation of around 9.3 billion kWh.

Power plant is built on the right bank of the River Sava, nearby Obrenovac. Except electricity, TENT A units also produce thermal energy enabling thus district heating for Obrenovac and surrounding places.

Revitalization until 2015 increased the capacity of the units A3, A4, A5 and A6 to 300 MW and the plan is to revitalize the oldest units – A1 and A2, in the capacity of 210 MW.

TENT B

Two largest power units in Serbia, with the capacity of 650 MW each, are located at TENT B. Power plant is located on the right bank of the River Sava, 50 km west of Belgrade and 17 km upstream of TENT A complex.

So far TENT B units reached almost all records in generation, duration of uninterrupted time operation, hourly use, basic efficiency indicators and exploitation cost-effectiveness.

TENT B annually generates around 7.7 billion kWh.



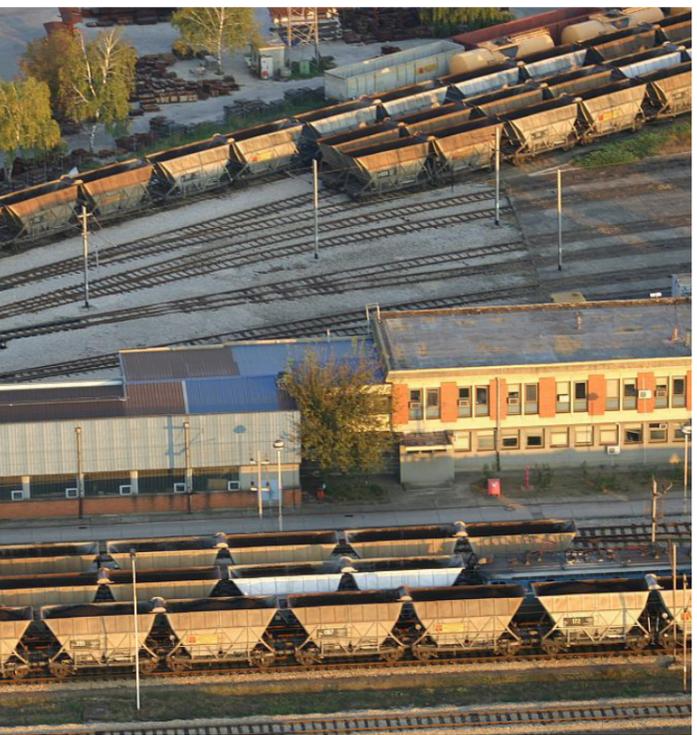
TPP KOLUBARA

The oldest active thermal power plant at Electric Power System of Serbia. It was commissioned in 1956 and until 1979 five units were built in total. It is located in Veliki Crljeni, in the immediate vicinity of Kolubara open cast mines that also supply coal for it.

Installed capacity of the units A1, A2, A3 and A5 is 239 MW, and in the last 10 years TPP Kolubara annually produces 775 million kWh on average. As of 2009, Unit A4 is out of operation.



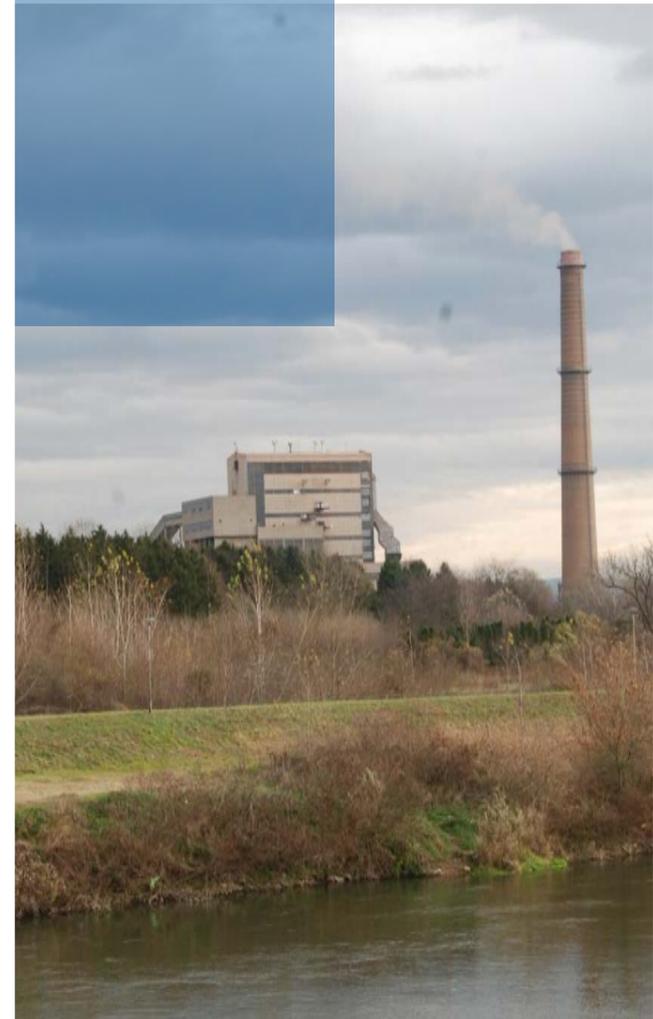
RAILWAY TRANSPORT



At the time when thermal power plants in Obrenovac were built, railway transport system at TENT was also constructed. Main task is to perform transport from MB Kolubara for the power plants in Obrenovac and Veliki Crljeni. The first tons of the lignite from Kolubara arrived to the landfill at TENT in August in 1969.

Today, railroad Obrenovac-Vreoci is 100 km long. It delivers up to 100,000 tons of coal on daily basis, which represents the busiest road in Serbia. During 24 hours, 60 train compositions in both directions passes on this railroad. About 25 million tons of coal on average are transported annually.

The system is remotely controlled. The railways are of the first order, equipped with modern towing and pulling means, modern railway technology and railway facilities. Since 2017, Railway TENT is enforced with the new state-of-the-art locomotives produced in China.



THERMAL POWER PLANT MORAVA

Morava TPP is located on the right bank of Velika Morava at 2.8 km from Svilajnac. Installed capacity of the unit is 125 MW, and average annual generation is 466 million kWh.

The revitalizations conducted in 2015 and 2016 were environmentally oriented and secured modernization of the units especially of ESP in environmental aspect. Thus, the operational life cycle is extended as well as the reliability and energy efficiency of the smallest Serbian thermal power plant.

TPPS-OCMS KOSTOLAC



With two power plants Kostolac A and Kostolac B and four units with the total installed capacity of 1,007 MW, the branch TPP-OCM Kostolac is the fourth power capacity in Serbia.

Decades-long excavation and lignite wealth in Kostolac basin created a basis for thermal capacities construction in this area, in the vicinity of both the deposit and settlement.

Annual generation is 5,875 GWh on average, which represents 17% of EPS electricity generation.

THERMAL POWER PLANT KOSTOLAC B

Unit B1 was commissioned in 1988 and B2 in 1991. Both units have the same installed capacities of 348,5 MW, i.e. 697 MW in total.

Modernization and revitalization conducted in the previous years, thermal power plants in Kostolac have become more reliable, efficient and their operation is in accordance with the environmental standards.

Record
6,862 GWh-2017



THERMAL POWER PLANT KOSTOLAC A

When in 1967 the first unit A1 at TPP Kostolac A, with the capacity of 100 MW was commissioned, it was the biggest thermal power plant in Serbia. Thirteen years later in 1980, the second unit at TPP Kostolac A was also commissioned with the capacity of 210 MW.

Besides the electricity, TPP Kostolac A produces thermal energy for the heating of Kostolac, Požarevac and surroundings.

Thermal Power Plant Kostolac A annually generates 1,927 GWh on average.

CHP PANONSKE

The branch Panonske Combined Heat and Power Plants Novi Sad generate electricity for the needs of electric power system of Serbia, as well as thermal energy for the needs of utility plants in Novi Sad, Zrenjanin and Sremska Mitrovica.

The plants generate power in a modern, cogeneration process enabling thus primary fuel savings – natural gas or fuel oil - up to 25% compared with the one realized by a separate electricity and heating generation. CHP in Sremska Mitrovica use a sunflower seed husk boiler.

The branch Panonske CHPs includes:

CHP Novi Sad

CHP Zrenjanin

CHP Sremska Mitrovica



Total capacity amounts to 403 MW for electricity generation and 505 MW (t) for thermal energy generation.





HYDRO POWER PLANTS DJERDAP



Branch HPP Đerdap has 7 HPPs with 28 hydro units of installed capacity 1,605 MW and annual electricity generation of 7,181 GWh on average, which represents 20% of PE EPS generation.

The branch HPP Djerdap includes:

- HPP Djerdap 1
- HPP Djerdap 2
- Vlasinske HPPs
- HPP Pirot

HYDRO POWER PLANTS

Reservoir and run-of-the-river hydro power plants of EPS have a significant role in the company's generation mix. Not only because the experts at EPS - by good planning and management - try to use maximum possible technical and economic hydro potential of Danube, Drina, Velika Morava and their tributaries and to harmonize it with the operation of thermal power plants, they also represent renewable energy sources.

Installed capacity of HPP Djerdap and Drinsko-Limske HPPs is 3,015 MW generating annually 10,537 GWh on average, i.e. about 30 % of electricity generation in PE EPS.

EPS pays special attention to the preservation of the water fund and protection of the environment along the banks of the flows where hydro power plants are located.

PE EPS has of 15 hydro power plants with 49 hydro units, 1 pumped storage hydro power plant with 2 units, 1 pump plant with 2 pumps and 16 small hydro power plants.



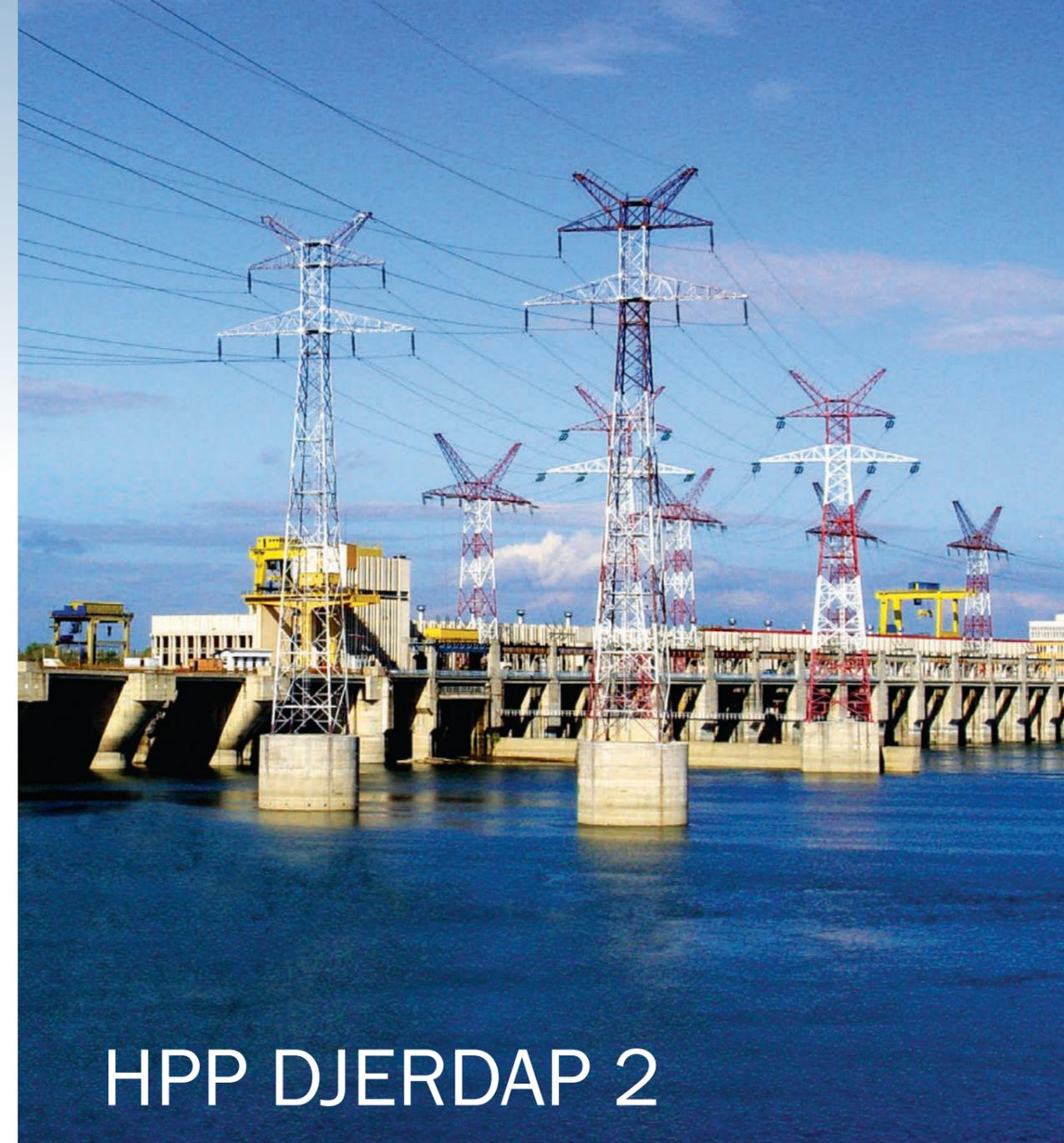
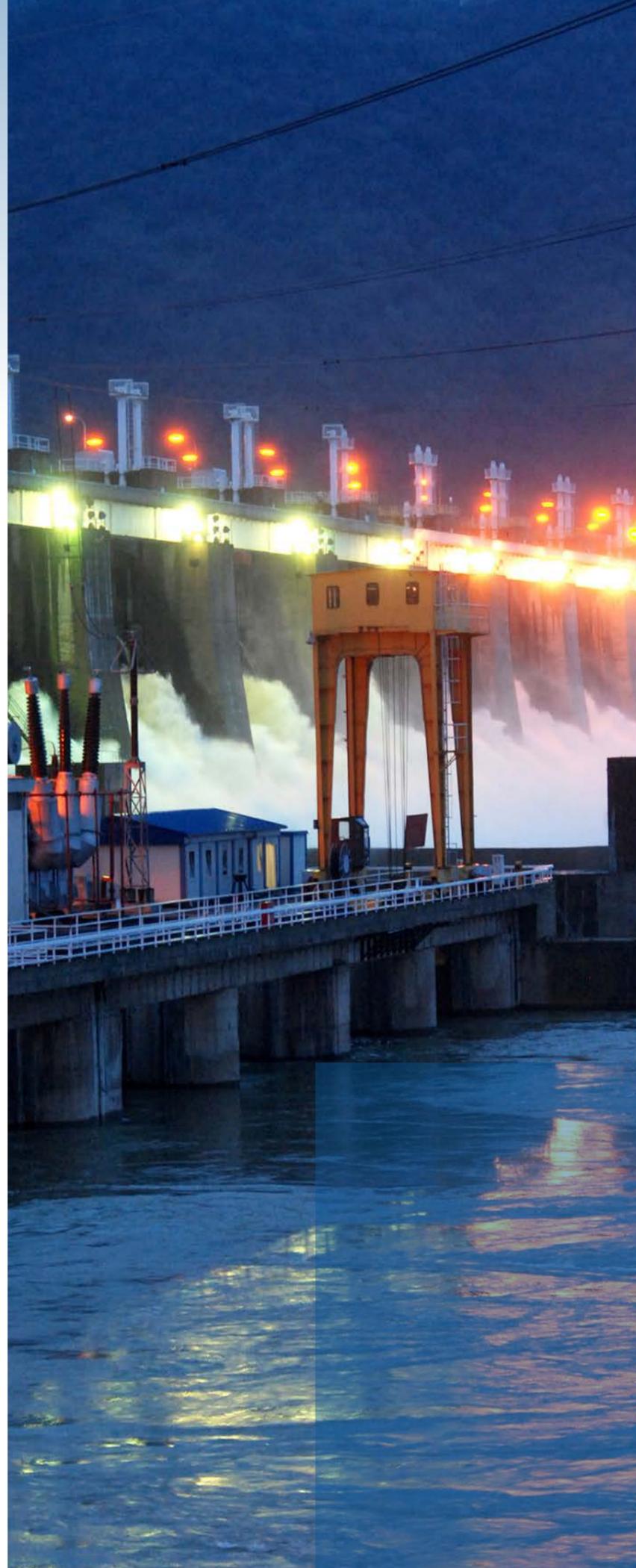
HPP DJERDAP 1

During the construction of Hydro Power and Navigation System Djerdap 1, global attention was paid to Serbian and Romanian builders. Their struggle with the big, fiery and unpredictable river was closely followed. The strong Danube had to be conquered and its current had to be directed through powerful turbines, providing at the same time water level raising and safe navigation for the ships through the Iron Gates.

HPP system Đerdap 1 consists of 6 hydro units and the spillway with seven spillway gates and navigation lock. Today, HPP system Djerdap still represents the biggest hydro power plant on Danube and together with HPP system Djerdap 2 represent the biggest producer of hydro power in the South East Europe.

HPP system Djerdap 1 was built together with the neighbouring Romania. The building is symmetrical and identical on both sides. Bisector of the facility represents the state border line.

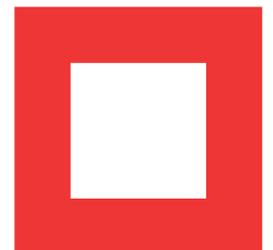
Installed capacity of the unit on Serbian side is 1,126 MW and average annual generation is 5,252 GWh.



HPP DJERDAP 2

HPP Djerdap 2 is the second joint Serbian-Romanian hydropower plant on the Danube River. It consists of one joint building with 20 units, 10 units per each side, two spillway dams, two 110 kV switchyards and two ship locks. The two countries use the Danube energy under the same conditions.

Generators are of horizontal type with Caplan turbines which makes this power plant in EPS system special. Their total installed capacity is 270 MW, and average annual generation amounts to 1,531 GWh.



VLASINSKE HYDROPOWER PLANTS

One of the most scattered systems of the Electric Power Industry of Serbia, with 10 hydro units in four power plants, earth dam, accumulation lake and 100 km long system of channels and tunnels. The first unit was commissioned in 1954. Total installed capacity of four Vrlas is 129 MW and they may be put in operation in only a couple of minutes. Annual generation is 293 million kWh in average.

The first earth dam in Serbia was built on Vlasina plateau, creating Vlasina lake, 16 square meters of surface and 165 million cubic meters of water volume. This is the largest artificial lake in Serbia.

Construction of Lisina pumped-storage power plant increased possibility of exploitation of Vlasinske hydropower plants. PSPP Lisina was commissioned in 1978.



HPP PIROT

After natural disaster on the River of Visociča, when village of Zavoj near Pirot was completely flooded, Zavojsko lake accumulation was created. Since 1990, when HPP Pirot was commissioned, water from the lake has been directed into the power house onto two vertical units with Fransis-type turbines with capacity of 40 MW.

The plant is peak load plant, with 4-5 hours average daily full capacity operation.

Average annual generation of the power plant is 105 million kWh.



DRINSKO-LIMSKE HYDRO POWER PLANTS

Nine HPPs with 23 hydro units of total installed capacity of 1,390 MW operate within Drimsko-Limske Hydro Power Plants. The power plants were built on Drina, Lim, Uvac and Zapadna Morava.

Drinsko-Limske HPPs average annual electricity generation amounts to 3,322 GWh, which makes around 10 percent of PE EPS generation.



Drinsko-Limske HPPs Branch consists of:

- HPP Bajina Bašta
- RHPP Bajina Bašta
- HPP Zvornik
- HPP Bistrica
- HPP Kokin Brod
- HPP Uvac
- HPP Potpeć
- HPP Međuvršje
- HPP Ovčar Banja

HPP BAJINA BAŠTA

HPP Bajina Bašta is the largest plant on Drina.

Bajina Bašta hydro power plant has four units of total installed capacity of 420 MW. Average annual generation amounts to 1,474 GWh.

A dam, behind which the artificial lake is created, belongs to the range of the largest building structures in our country. It is 90 meters high and 460 meters long. Through the most attractive part of Drina course, Perućac lake spreads over the surface of 12.5 square kilometers. Depth of the lake in the widest part directly behind the dam is 90 meters.

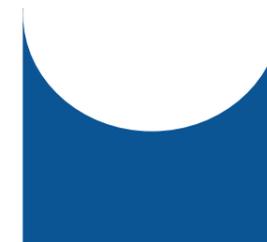


PSHPP BAJINA BAŠTA

Bajina Bašta pumped-storage hydro power plant is pump-storage double operating plant: the pump and the producer of electric energy. Cheap energy surpluses are used for pumping of the water from Drina into Zaovine lake on Tara mountain and thus the huge reserves are created. The system operates as a pump plant in such regime. When electricity is most needed, water from accumulation is put through two units of total capacity of 614 MW. Average annual generation is 670 million kWh.

During dry periods and during the times of higher consumption, this plant contributes to electric power security of the system of the country. Full accumulation on Tara enables continuous operation of pumped-storage hydro power plant for more than 20 days.

The power plant was commissioned in 1982.





HPP BISTRICA

HPP Bistrica construction started with construction of Radoinja dam near the village of the same name on Uvac.

Rock-fill dam of 43m height created compensation basin HPP Bistrica, and water is brought to the turbine hall of the power plant through an eight kilometers long tunnel. When Bistrica was first put in operation in 1960, it was the most powerful generation capacity in the country.

HPP Bistrica basin enables different time schedule for operation of that power plant and of HPP Kokin brod.

HPP Bistrica has two units with total installed capacity of 102 MW, and together with Kokin Brod, they produce around 400 million kWh.

HPP KOKIN BROD

This is a reservoir hydro power plant with powerhouse at the toe of the dam of installed capacity of 21 MW. The dam on the Uvac river created Zlatar lake reservoir. Water from the lake, after being used for electricity generation in HPP Kokin Brod, flows further into the compensation basin of HPP Bistrica.

Construction of HPP Kokin Brod turbine hall, installation of all devices, machinery and structures was completed in March 1962.



HPP ZVORNIK

HPP Zvornik, first hydro power plant on the Drina river, is a run-of-river hydro power plant with powerhouse at the toe of the dam. It has a concrete gravity dam and one powerhouse with two units on each Drina riverbank.

At the beginning, when the hydro power plant was put in operation for the first time in 1955, their total capacity was 88 MW. Upon completion of rehabilitation, the four units have by 30 percent higher capacity amounting to 126 MW today.

Dam with eight spillway sections is 42 meters high, and 166.5 meters long. At 140 meters above the see level, Zvornik lake was created. The surface of the lake amounts to 13.5 square kilometers and it is 25 kilometers long.

Average annual generation amount to 455 million kWh.

HPP POTPEĆ



It is the third hydro power plant within the Limske HPPs system and the only one on Lim. Wild and irrepressible river was conquered and dammed up by 46 meters high and 216 meters long concrete structure.

The hydro power plant was put in operation for the first time in 1967. Installed capacity of the power plant is 51 MW, and average annual generation is 198 million kWh.



HPP ELEKTROMORAVA

Hydro power plants Ovčar Banja and Medjuvršje are called today HPP Elektromorava. Both power plants are located on the river of Zapadna Morava, in Ovčar-Kablar canyon.

They were the first in EPS to undergo rehabilitation. Around 95 percent of electro-mechanical equipment for turbines and generators were replaced, while the remaining electrical equipment was completely replaced. Additional, third unit, was installed in HPP Medjuvršje in 2014. Power of the power plant was increased by 25 percent. Today, both power plants have total power of 18 MW, and average annual generation amounts to 65 million kWh.

The power plants are within the system of privileged producer of electric energy.

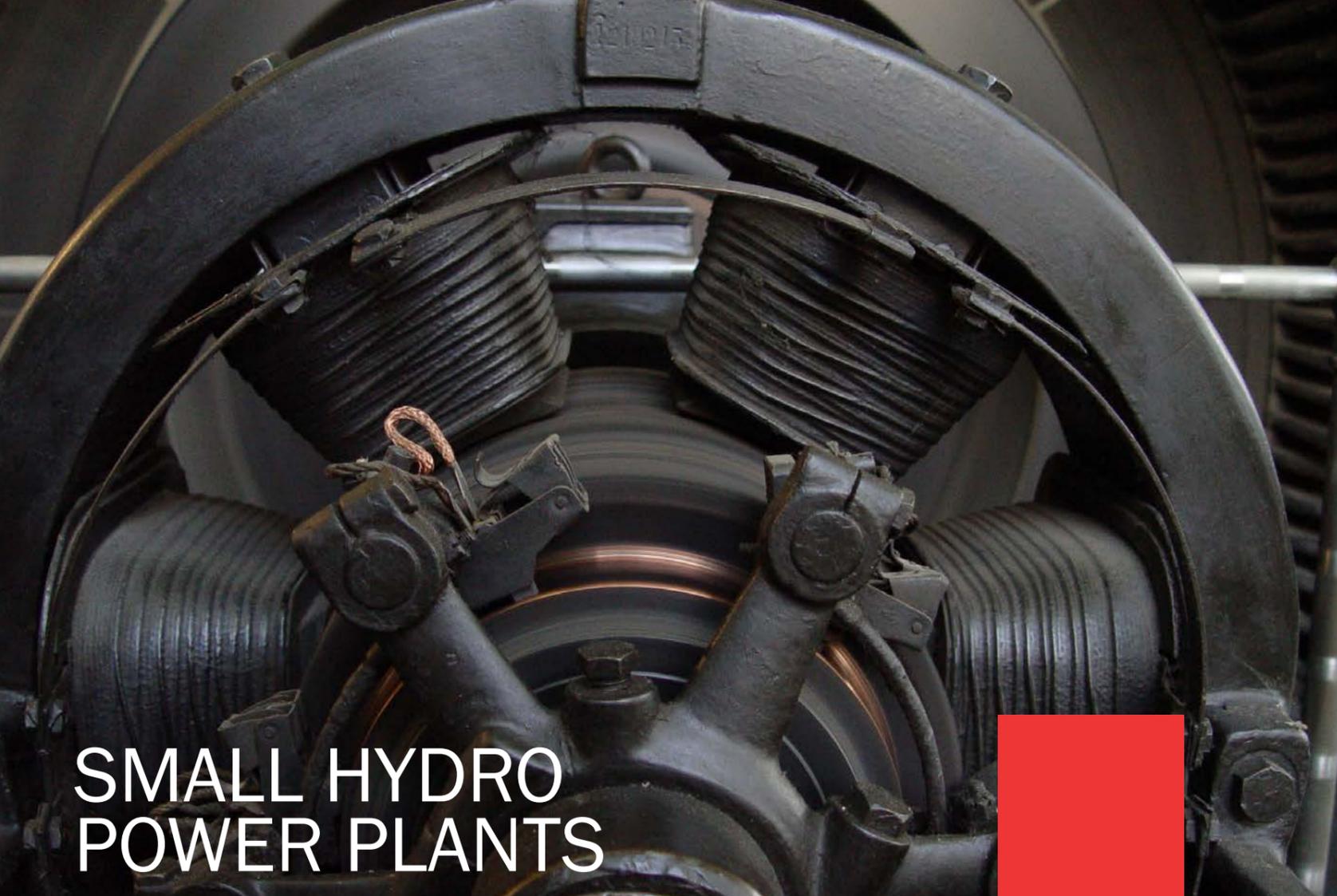


HPP UVAC

Last built power plant within the Limske system actually is the first step on Uvac. It was built in the upper course of the river, in the kingdom of griffon vulture, at 1.000 meters above the sea level. The power plant was commissioned in 1979.

Construction of 110 meters high and 313 meters long earth dam was the most demanding. Thus, Uvac lake was created.

Power plant capacity is 36 MW, and average annual generation is 58 million kWh.



SMALL HYDRO POWER PLANTS

The same as 100 year ago, when use of electric energy in Serbia started, and thus a new chapter in development of the country, today generation in small hydro power plants reflects new age of priority of preserving environment.

Ten hydro power plants built between 1900 and 1940 have been saved up to present and they make part of EPS system. They are ranged today within small HPPs of the power of 10 MW and represent renewable energy source. Together with small HPPs built between 1948 and 1989, they will undergo rehabilitation, and construction of new small hydro power plants is also planned. Thus, EPS confirms its commitment to development of renewable energy sources and to generation of “green” kilowatt-hours.



Electric Power Industry of Serbia is particularly proud of its five oldest hydro power plants: Pod gradom, Vučje, Sveta Petka, Gamzigrad and Moravica. Not large number of power companies may declare to have hydro power plants that have been working for more than 100 years. This is due to maintained equipment and care of employees.

Between the two world wars, hydropower plants Sićevo, Temac, Jelašnica, Turica and Vrelo were built with significantly higher capacity. After the end of the World War II small HPPs Sokolovica, Raška and Seljašnica were built. In eighties, small hydro power plants Kratovska Reka and Radaljska Banja were built and after that Prvonek.

Rehabilitation of small HPPs is ongoing. Old turbines will be revived by new power, rejuvenated and saved for new generations.



CUSTOMERS

Electric Power Industry of Serbia provides all customers with regular, safe and reliable supply. EPS as a supplier still keeps its high share and dominant role in Serbian electricity market.

Electric Power Industry of Serbia is willing to stay a leading company in the competition fight not only in Serbia but rather in the entire region, even in the conditions of totally liberalized market. A buyer recognizes EPS and always goes back to it because EPS offers the most favorable prices and the complete services on the market.

Creating partnership with buyers, EPS may keep leading position in Serbian electricity market. The aim is that the customers still recognize EPS as a stable and competitive supplier, which may be achieved only by quality new services and constant communication.

It is of special importance to create a good communication and to improve relations with our customers. The greatest challenge for EPS is to keep the trust and loyalty of its customers. Cooperation is being constantly developed and the services are being improved. One of communication channels is a redesigned corporate website www.eps.rs. New EPS website is only the first step in improvement of competitiveness in the market and getting closer to the customers.

Priorities:

- Continuous customers relations improvement
- Introduction of new technologies and modern trends in business in order to apply new services in the market
- Recruiting new customers in the conditions of market competition

Total number of customers - around 3,600,000



EPS has founded call-center in order to enable higher level of quality operation with customers and to improve business. Services and application are being created to ensure simple and quickly customers' informing without going out and addressing to the counters.

The plan is to introduce digital services through a single portal and to initiate mobile application for the users. Thus, customers' service is put on a higher, more efficient and technologically advanced level.

Electric Power Industry of Serbia offers green energy to commercial customers, with the guarantee of origin from generation exclusively from renewable sources of electric energy. That's the electric energy generated in hydro power plants owned by PE EPS.

Choosing the green energy, corporate responsible electricity customers in Serbia elect to do their business in ecological manner, participate in creation of cleaner environment and sustainable development, thus becoming active participants in improvement of community in which they perform their business.

In accordance with legal obligations, EPS is obliged to inform customers on the share of a source in electric energy, and once a year submit to them report confirming the energy source used in generation. Electricity customers who used green energy over the entire previous year will get a report on it.



SUPPLY

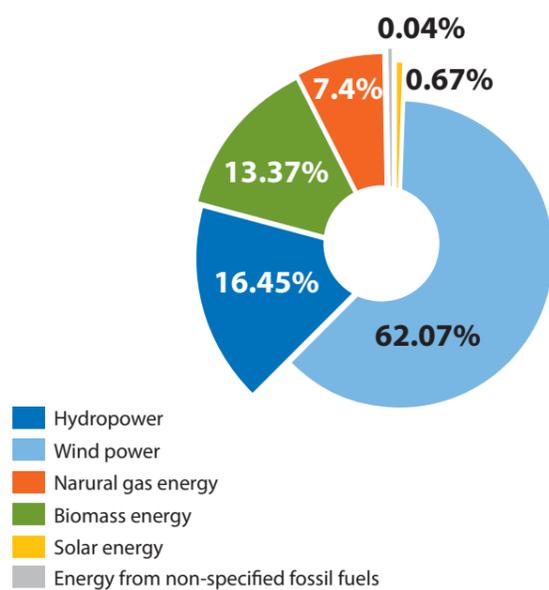
EPS is a guaranteed supplier of all electricity customers supplied as per the regulated prices. In the open market, since 1st January 2014, it performs business activities of supplier of other end customers as well.

Supply	2020	2019	2018
Guaranteed	14,935 GWh	14,637 GWh	14,852 GWh
Commercial	12,702 GWh	12,979 GWh	12,883 GWh
Last-resort	67 GWh	106 GWh	174 GWh
Total Sale	27,704 GWh	27,722 GWh	27,909 GWh

ELECTRICITY PURCHASE FROM PRIVILEGED PRODUCERS

As a guaranteed supplier, under the Incentive Measures for exploitation of renewable source for electricity generation, PE EPS is obliged to purchase electric energy from privileged producers, with balance responsibility overtaking.

Generation of RES within the incentive system
1,345 GWh in 2020.



ELECTRICITY TRADE

Electricity trade is performed for balancing and optimization of the unique power portfolio BRS PE EPS (Balance responsible party PE EPS). The aim of the company is to realize maximum profit from available primary energy and sale of system services to the transmission system operator, as well as to reduce supply costs.

Company of EPS Trgovanje, Ljubljana, was founded on 1st July 2014 as the first company which PE EPS had founded abroad for the purpose of trading in electric energy. Through EPS Trgovanje, EPS perform trade on the electricity exchange of HUPX in Hungary, CROPEX in Croatia and BSP Southpool in Slovenia and achieve positive effects. Through HUPX, the access to the markets in Cheque, Slovakia, Hungary and Romania is enabled. Through Slovenian exchange, EPS trades in Italy market.

Exchanges 2020	Sale GWh	Purchase GWh
SEEPEX	411 GWh	141 GWh
EPS Trgovanje (HUPX, CROPEX and BSP Southpool)	801 GWh	13 GWh
Total	1,212 GWh	154 GWh

EPS' trading in the forthcoming period shall be grounded firstly on trading and management of power portfolio. Depending on available financial funds of EPS group and on the level of development of trading infrastructure in the region, the scope of trade shall increase and sale of other's energy. For that, positioning of daughter company on EPS Trgovanje several markets is needed.

Wholesale Market Trading 2020	GWh
Sale	2,155 GWh
Purchase	484 GWh
Total	2,639 GWh

INVESTMENTS

Electric Power Industry of Serbia clearly recognizes the key goals of the energy sector development in Serbia. That is why it continuously modernizes production capacities and processes, builds new plants, introduces modern technologies, increases efficiency and raises standards. In order to achieve the vision of such modern Electric Power Industry of Serbia, investments are necessary in every segment of the company's business.

Investments and new projects are a true indicator of the EPS' development and modernization. EPS' investments are also recognized as investments in a better life for the citizens of Serbia.

Investments were necessary for EPS to reach today's level of development, with efforts not only to maintain the electric power system, but also to constantly upgrade it.

Every year, EPS invests somewhere between EUR 200 and 300 million in the system.



One of the largest investments in the Serbian energy sector is the construction of a modern and efficient B3 thermal unit in TPP Kostolac B with a capacity of 350 MW, with estimated value of \$ 618 million, and this unit will be harmonized with EU environmental legislation. It is part of a larger scale project, within which ECS system (excavator-conveyor-spreader) was procured for increasing the production of coal at the Drmno mine from the current 9 to 12 million tons of coal per year. This ECS system is worth \$ 97.6 million.



Investments in production modernization, power plant and system security revitalization, as well as investments in environmental protection are some of the measures that EPS is implementing on the way to increasing revenues and making its business even more successful.

The goal is for EPS to improve the existing thermal and hydro power plants and mining mechanization, as well as to open modern mines and build new "green" power plants. The announcement of new investments in the electric power industry gives an incentive for EPS to accelerate completion of current projects and start as many new ones as soon as possible.



The construction of a flue gas desulphurization system is underway in TPP Nikola Tesla A for the four strongest units of that power plant. The value of this environmental project is EUR 217 million. The construction of the same plant on TENT B has started, and the value of the project is EUR 210 million. EPS has also completed the construction of such plant, worth EUR 96 million, in TPP Kostolac B.

Projects that require greater use of renewable energy sources have a significant share in the investment cycle. The new largest capacity project among these is the 66-megawatt wind farm that is going to be built in Kostolac. The project is worth approximately EUR 100 million.

Projects:

- Improvement of environmental protection
- Revitalization and modernization of TPPs and HPPs
- Planning and construction of new power plants



The construction project of the pumped-storage hydropower plant Bistrica is also being analyzed, which will provide the necessary level of balance reserve for the electric power system of Serbia while new power plants are being connected to renewable sources. It is estimated that PSHPP Bistrica will produce more than 1,000 GWh per year.

EPS is cooperating with neighboring power companies in an effort to increase the region's energy capacity. Example of this are projects such as the construction of the Gornja Drina system, i.e. the first hydropower plant Buk Bijela, with a capacity of some 100 megawatts. The project is being implemented by the HES Gornja Drina joint venture, where EPS has 51 percent ownership, and Elektroprivreda Republike Srpske has 49 percent. HPP Buk Bijela is part of the construction project of three hydropower plants on the upper course of the Drina River, with a total capacity of more than 200 megawatts and annual design generation of about 700 million kWh. This investment will bring green kilowatt-hours and increase the energy stability of Serbia, Republika Srpska and the region as a whole.

The first green project has been completed in MB Kolubara, the goal of which is to improve the technology of coal mining and to unify the quality of lignite. This valuable project enables more efficient operation of thermal power plants and reduces negative impacts on the environment. Built-in quality management equipment, together with the new landfill, enables controlled mixing of coal of different quality, as well as mixing of coal from Field G and Tamnava - West Field, and later Radljevo as well, which is being prepared to start coal production. Thermal power plants will be supplied with coal of balanced quality; thus, their work will be more efficient.



The largest hydropower plant in Serbia, HPP „Djerdap 1“, will increase its power by approximately 10 percent and extend its working life by 40 years by revitalizing the unit. After the renovation of the first Djerdap hydropower plant, the revitalization of all 10 units of HPP „Djerdap 2“ will begin.

Approximately EUR 28.5 million were invested in the modernization of the navigation lock in HPP „Djerdap 1“, and it was put into operation in July 2021 with renewed and improved equipment. The project of the navigation lock modernization in HPP „Djerdap 2“ is also underway.



Hydropower plant Zvornik revitalization has been successfully completed, and the effects can be seen in the new daily and monthly records and double production. Total installed power of the unit after the revitalization is 125.6 megawatts, which is 30% more. Investing in the revitalization of the EPS' existing production capacities is one of the ways for EPS to remain the most important energy link in Serbia in the future. Everything we invest in the system modernization will be returned many times over, because every additional green megawatt-hour produced means additional stability of EPS.

EPS' investments in modern mining equipment and the opening of new mines in the Kolubara and Kostolac coal basins are also significant. These investments will ensure the continuation of stable coal production for thermal power plants.



ENVIRONMENTAL PROTECTION

Environmental protection is one of the business priorities of Electric Power Industry of Serbia and an integral part of the company's management strategy. Being environmentally sustainable business, which is harmonized with the EU norms, EPS implements series of activities with the aim of preserving the environment, while increasing productivity and the efficiency of production capacities.

EPS is aware of its impact on the environment, and strives to harmonize all its activities with legal and other requirements, with the obligation to constantly improve environmental protection.

Each investment project of Electric Power Industry of Serbia includes measures to improve environmental protection. From 2002 to 2020, EPS invested approximately EUR 540 million in projects that improve the quality of air, water and land.

The plan is that total investments reach EUR 1.2 billion in the coming years. Investments are made systematically regarding modernization of the equipment and the introduction of the latest technologies into the production of coal and electricity in order to minimize the environmental impact. Projects focused on air protection are first on the list.

The measures that EPS is undertaking will reduce the emissions of particulate matter by 94 percent, and the emissions of nitrogen oxides will be reduced almost by half. The biggest effects will be seen in sulfur dioxide emissions, which will be reduced by 90 percent.

The most important projects in the field of environmental protection:

- Reconstruction of electrostatic precipitators
- Construction and improvement of ash and slag transport and disposal system
- Construction of flue gas desulphurization and denitrification plants
- Coal quality management
- Landfill modernization
- Conservation of aquatic ecosystem reservoirs and coastal ecosystems
- Waste management



The priority and the largest investment volume is envisaged in the field of air quality protection by building a flue gas desulphurization system and introducing primary and secondary measures in order to reduce nitrogen oxide emissions in thermal power plants. In this way EPS meets the strict EU environmental standards and lowers emissions below the limits set by domestic and European regulations.

The construction of a flue gas desulphurization plant in TENT A and TENT B is underway in EPS, while TPP „Kostolac B“ has already been built.

The construction of a wastewater treatment plant in thermal power plants is also put into motion. The systems for collection, transport and disposal of ash have been improved and reconstructed, which has also improved air protection, as ash scattering is prevented.

One of the larger projects whose implementation will significantly improve environmental protection is the green project for coal quality management in MB Kolubara. The new mining equipment is designed to operate according to the highest environmental standards and enables the production of coal and electricity from coal with lowest environmental impact. The efficiency and utilization of the overburden and coal extraction system will increase. And all of this will provide better resource management and maximum deposit utilization. On the other hand, exploitation costs will be reduced.

Effects are expected to be seen in thermal power plants as well. Thanks to the coal quality, which will be in the planned projected range, the units will be able to work in a more efficient and stable way, and thus with reduced environmental impact.



RENEWABLE ENERGY SOURCES

Electric Power Industry of Serbia is determined to increase production capacities from renewable sources. Although coal remains the basis for electricity generation in Serbia, EPS will increase the percentage of energy generation from renewable sources. EPS is ready for major changes in the energy sector and is moving towards a green agenda and renewable energy sources.

Increasing the share of renewable energy sources in electricity generation is one of the EPS' strategic interests.



As a renewable energy source, EPS' hydropower plants are being paid special attention. The company's development plans include the revitalization of existing hydropower plants, in order to extend their service life, increase installed capacity and renewable energy production. Construction of new hydropower plants, wind farms and solar power plants is also planned.

The first EPS' wind farm, with a capacity of 66 megawatts, will be built on closed mines and landfills in Kostolac. The project is worth approximately EUR 100 million. The expected annual production of 20 wind turbines is about 150 million kilowatt-hours, which is enough to supply approximately 30,000 households.

The plan is to build a 9.95 MW solar power plant on an area of 15 acres of the landfill of the former Ćirikovac mine, near the settlement of Petka. The estimated value of the project is approximately EUR 11 million, and the power plant will generate 12.9 million kilowatt-hours of electricity per year.

We are also working on the development of the larger solar power plant with a capacity of 97.2 megawatts at the existing ash and slag landfill in the area of the Srednje kostolačko ostrvo. EPS plans to invest EUR 84 million in this solar power plant and to gain an average of approximately 115 million kilowatt-hours a year on 270 acres from renewable sources.



Priorities:

- Revitalization and modernization of existing large and small hydropower plants
- Construction of new hydropower plants
- Development of wind farms and solar power plants



INTEGRATED MANAGEMENT SYSTEM

One of the EPS' priorities is the procedural regulation of the company's business and compliance with the requirements of international standards through the implementation of projects for the introduction and certification of management systems and their integration into a single integrated management system - IMS. By implementing, maintaining and constantly improving various management systems, EPS improves its business efficiency and effectiveness, it continuously works to meet the expectations of customers and all other stakeholders, identifies and reduces risks, and understands the business context of the company.

Branches for coal production and electricity generation have established and certified their business system according to the requirements of international standards ISO 9001, ISO 14001, ISO 45001, and they have integrated numerous requirements of the standards into their business. Some branches have implemented, integrated and certified management systems according to the requirements of ISO/IEC 27001 and ISO 50001 as well. Mutual harmonization and connection of implemented management systems at the level of EPS is underway, which will contribute to greater efficiency, savings and optimization of process performance, orderliness of business and technical system, timely recognition of opportunities, avoidance and minimization of risks, and all this will make a good basis for the application of socially responsible business requirements.

Developed integrated management system and its consistent application is the basis for a powerful management system that, with the knowledge and dedicated participation of all members, makes sustainable success of the organization possible. EPS is absolutely committed to business ethics, care for the environment, safety and security at work, raising awareness of the energy efficiency importance and other aspects of the quality of life. In this way, it contributes to savings at the national level and realizes benefits for society as a whole.

The necessity of applying the requirements of the quality infrastructure and fulfilling the legal requirements of the technical regulations has been recognized in EPS in a systematic way. In this way, guidelines are provided for timely adaptation of EPS to the requirements of the market, competent state bodies, the environment and international institutions, and thus conditions are created for profitable and good business practice in EPS.



EMPLOYEES

The most valuable resource of EPS is its people, and their safety and health at work are a priority in human resource management.

There has been a continuous reduction in the number of injuries at work. Modern technical, ergonomic, organizational and health measures are introduced in order to reduce the risk of injuries. Preventive and periodic inspections and testing of work equipment and working environment conditions are carried out.

EPS organizes systematic examinations with medical specialists, monitors the health of employees and encourages their rehabilitation and recreation.

Employees have the opportunity for professional development, improvement of knowledge and skills, they can attend trainings and participate in professional meetings and events.

Every new project, business step and decision are in line with the company's vision coming to life and it concerns market-oriented, competitive, profitable, and socially responsible company. That is why EPS is recognized as a reliable partner to the business community and one of the most desirable employers in Serbia.



CORPORATE SOCIAL RESPONSIBILITY

Electric Power Industry of Serbia measures its success not only by business results, but also by active participation in all spheres of society and for the benefit of all citizens. As a socially responsible company, EPS is fully committed to the development of the community in which it operates and to the improvement of the quality of life, by providing support for science and education, health, culture, sports, humanitarian activities and the preservation of spiritual values.

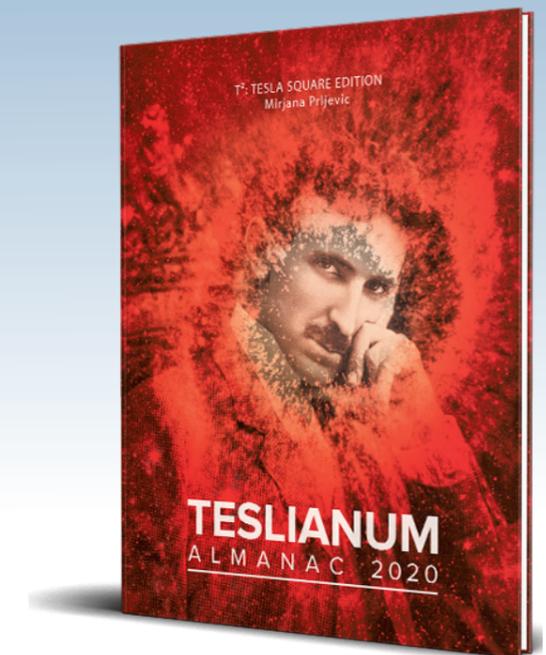
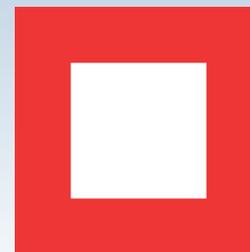
Electric Power Industry of Serbia is the donor to Serbian health care. The company provided financial assistance in order to improve the working conditions of the largest health care institutions in Serbia, as well as to procure medical devices, equipment and medicines. EPS strives to get involved in as many actions as possible to provide assistance in treatment, especially the treatment of children.

EPS supports the work of institutions for people with disabilities. The manifestation Games Without Frontiers for children with disabilities, the association In center as part of the project regarding development of social entrepreneurship, as well as the project Little big people were financially helped. The company provided financial assistance for equipping sensory rooms in homes for people with disabilities in Belgrade, Veternik, Kuline, Šabac and Niš.

EPS supported the work of homes for neglected children and people with disabilities, orphans and children of refugees from Kosovo and Metohija, as well as the work of non-governmental organizations in the field of human rights protection and protection of the rights of minorities. EPS participated in the financing of the project SOS Children's Villages and the association for the improvement of education of Roma children Wallachian Roma.

The work of the Counseling Center for Fighting Domestic Violence was also supported in their efforts to help victims of domestic violence and to reduce this great social problem to a minimum. EPS also financially helped the Children Movement Three Plus in implementing programs designed for families with three or more children aiming at stimulation of family expansion.

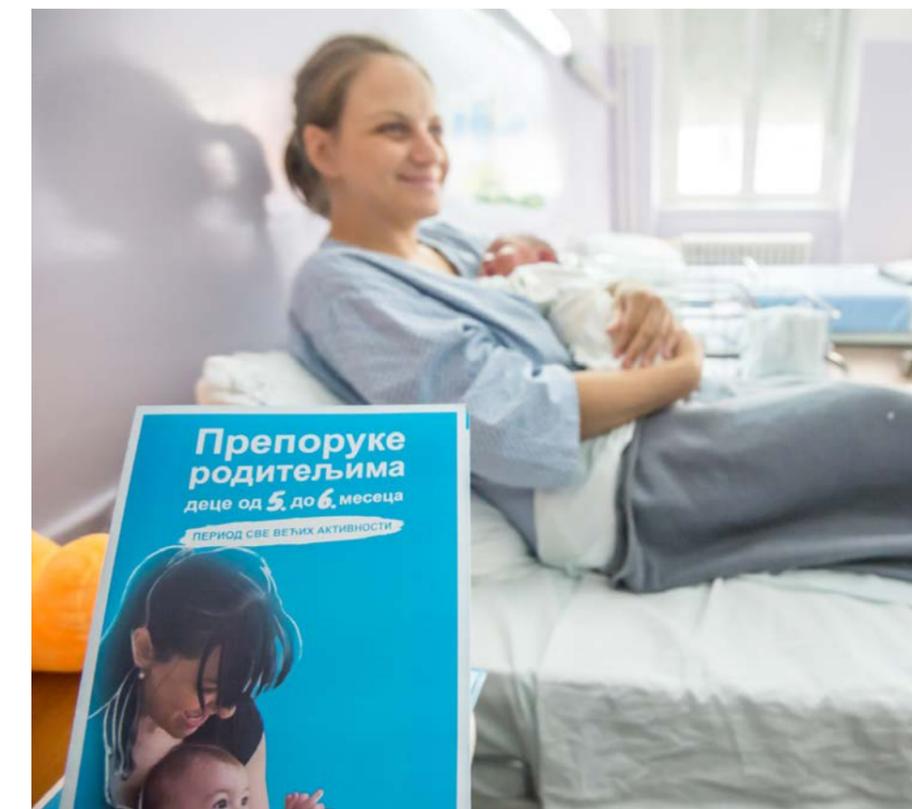
EPS gives full support to the youngest and their safe growing up and is a corporate donor to UNICEF's School without Violence. The company also supports the program for the early childhood development and has joined the campaign Early Moments Matter conducted by UNICEF, in cooperation with the Government of Serbia and line ministries.

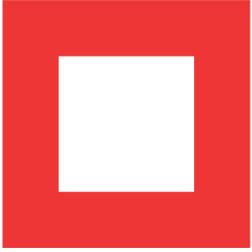
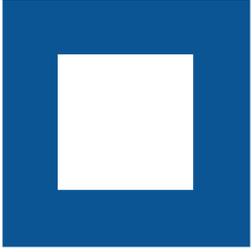


Electric Power Industry of Serbia supported the work of the National Association of Parents of Children with Cancer (NURDOR) in order to help parents whose children suffer from this disease.

With the help of Electric Power Industry of Serbia, 150 schools purchased the necessary furniture, new equipment and reconstructed their facilities. Better conditions for education are provided throughout Serbia, thus enabling children, as the most valuable members of Serbian society, to have modern classes in an adequate environment and to keep up with peers from the most developed countries.

In 2021, when the 165th anniversary of Nikola Tesla's birth is being marked, EPS supported the publication of the Teslianium Almanac, a publication that brings the unique, open mind of the great scientist Nikola Tesla closer to a wider readership in a creative way.





Prepared by:
PE EPS' Public Relations Sector

Public Enterprise
Electric Power Industry of Serbia
Balkanska 13
11000 Belgrade
www.eps.rs

