

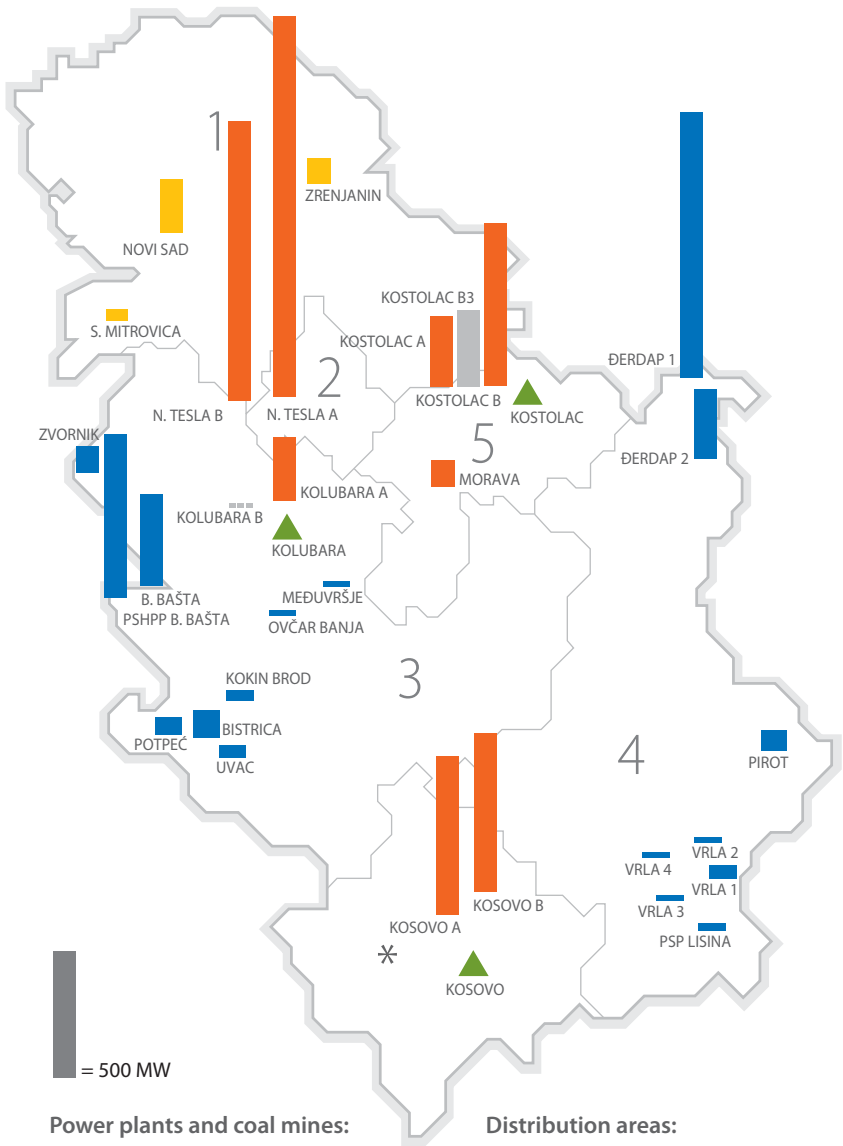
ELECTRIC POWER INDUSTRY OF SERBIA



TECHNICAL REPORT

2019

EPS INSTALLED CAPACITIES



Power plants and coal mines:

- TPP
- TPP UNDER CONSTRUCTION
- CHP
- HPP
- COAL MINE
- TPP potentially place

Distribution areas:

- 1_Novi Sad
- 2_Beograd
- 3_Kraljevo
- 4_Niš
- 5_Kragujevac
- *_PE Elektrokosmet, Priština

* As of June 1999, EPS does not operate its facilities on the territory of Kosovo and Metohija

EPS 2019

Data related to capacities managed by
Public Enterprise Electric Power Industry of Serbia

GENERATION CAPACITIES Net output capacity	<u>7,407</u> MW
ELECTRICITY GENERATION	<u>33,482</u> GWh
COAL PRODUCTION	<u>38,173,444</u> t
OVERBURDEN REMOVAL	<u>94,723,044</u> bcm
ELECTRICITY SALE	<u>35,847</u> GWh
In EPS Group	<u>33,745</u> GWh
Out of EPS Group	<u>2,102</u> GWh
ELECTRICITY PURCHASE Out of EPS Group	<u>2,365</u> GWh
NUMBER OF CUSTOMERS	
Total	<u>3,493,725</u>
Guaranteed supply	<u>3,457,951</u>
Last resort supply	<u>419</u>
Commercial supply	<u>35,355</u>

GENERATION CAPACITIES

POWER PLANT	Net output capacity MW
TPP Nikola Tesla A	1,622
TPP Nikola Tesla B	1,220
TPP Kolubara	216
TPP Morava	108
TPP Kostolac A	281
TPP Kostolac B	632
THERMAL Power Plants	4,079
CHP Novi Sad	208
CHP Zrenjanin	100
CHP Sremska Mitrovica	28
COMBINED Heat and Power Plants	336
HPP Đerdap 1	1,113
HPP Đerdap 2	270
Vlasina HPPs	129
HPP Pirot	80
HPP Bajina Bašta	420
PSHPP Bajina Bašta	614
HPP Zvornik	118
HPP Elektromorava	18
HPP Potpeć	51
HPP Bistrica and HPP Kokin Brod	124
HPP Uvac	36
Mini HPPs	19
HYDRO Power Plants	2,992
EPS POWER PLANTS	7,407

ELECTRICITY GENERATION

POWER PLANT	GWh
TPP Nikola Tesla A	8,571
TPP Nikola Tesla B	7,937
TPP Kolubara	560
TPP Morava	454
TPP Kostolac A	2,071
TPP Kostolac B	3,576
THERMAL Power Plants	23,169
CHP Novi Sad	337
CHP Zrenjanin	0
CHP Sremska Mitrovica	0
COMBINED Heat and Power Plants	337
HPP Đerdap 1	4,959
HPP Đerdap 2	1,526
Vlasina HPPs	190
HPP Piroć	44
HPP Bajina Bašta + SPP Brana Lazići	1,384
PSHPP Bajina Bašta	740
HPP Zvornik	456
HPP Elektromorava	67
HPP Potpeć	188
HPP Bistrica and HPP Kokin Brod	354
HPP Uvac	44
Mini HPPs	24
HYDRO Power Plants	9,976
TOTAL	33,482

ELECTRICITY SUPPLY

SALES CHARACTERISTICS

Supply type	Number of metering points	Number of customers	Electricity (GWh)
GUARANTEED	3,521,775	3,457,951	14,636.4
LV I Level	13,318	11,776	246.4
CS	3,507,752	3,445,566	14,374.0
LV II Level	234,165	207,014	1,048.6
Households	3,273,587	3,238,552	13,325.4
PL	705	609	16.0
LAST RESORT	1,879	419	106.4
HV	1	1	11.0
MV	26	14	34.4
LV	1,852	404	61.0
COMMERCIAL	130,834	35,355	12,979.2
HV	34	31	2,085.3
MV	4,615	2,910	6,798.0
LV	105,749	32,157	3,620.4
PL	20,436	257	475.5
TOTAL	3,654,488	3,493,725	27,722

LV - Low Voltage
 MV - Middle Voltage
 HV - High Voltage

CS - Consumer Spending
 PL - Public Lighting

HOUSEHOLD CATEGORY

AVERAGE CONSUMPTION
 per month

341 kWh

**NUMBER OF
 METERING POINTS**

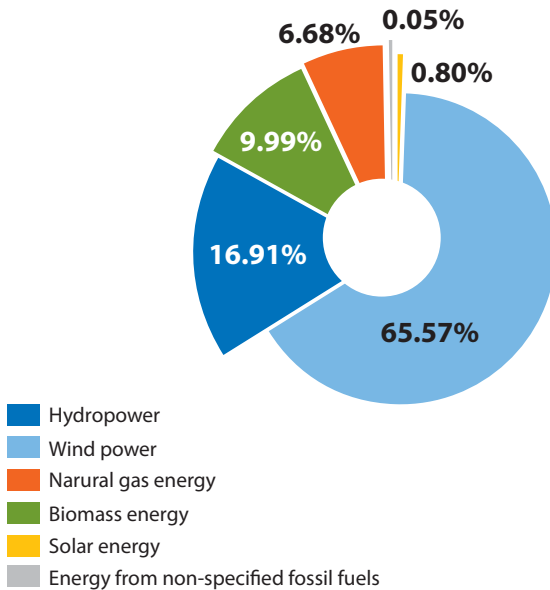
3,273,587

RES FEED-IN TARIFF ELECTRICITY GENERATION

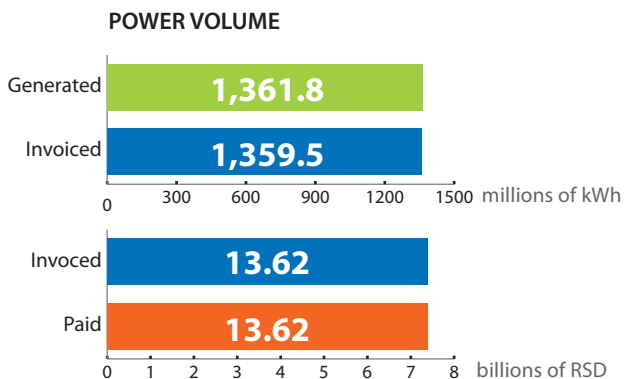
Feed-in tariff electricity volumes

PRIMARY ELECTRICITY SOURCES	(MWh)
Solar energy	10,940.96
Wind power	892,994.23
Hydropower	230,298.23
Geothermal energy	0
Biomass energy	136,069.80
Energy from non-specified renewable energy sources	0
Hard coal energy	0
Lignite and bituminous coal energy	0
Natural gas energy	91,017.20
Energy from petroleum and petroleum products	0
Energy from non-specified fossil fuels	483.86
Nuclear power	0
TOTAL	1,361,804.28

Structure of feed-in tariff electricity generation



PURCHASE OF ELECTRICITY FROM RES BY PRIVILEGED PRODUCERS



200

Number of producers

266

Number of power plants

Fees for privileged electricity producers

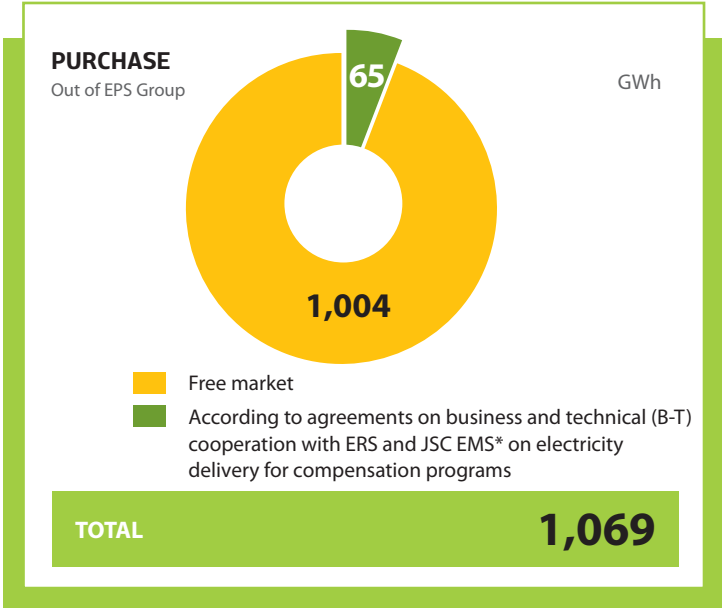
0.093
RSD/ kWh

Collected and disbursed funds for incentives for privileged producers

INVOICED AND COLLECTED INCENTIVE FEES	Invoiced	Collected
	(excluding VAT, in billion RSD)	
Guaranteed supplier for end customers	1.38	1.35
Suppliers for end customers	1.35	1.32
Distribution / Transmission system operator for end customers	0.016	0.016
TOTAL	2.75	2.69

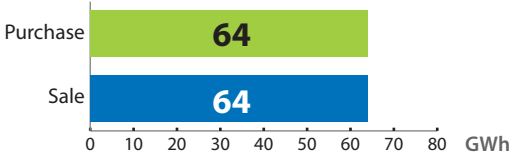
ELECTRICITY TRADE

Total scope of electricity trade in free wholesale market **2,992 GWh**



*ERS - Electric Power Industry of the Republic of Srpska
 JSC EMS - Elektromreža Srbije Joint Stock Company

Cooperation with Electric Power Industry of the Republic of Srpska According to agreements on business and technical cooperation



▲ Total sale at SEEPEX amounted to 295 GWh, while total purchase amounted to 268 GWh. Sales via EPS Trgovanje at the markets in Hungary (HUPX), Croatia (CROPEX) and Slovenia (BSP Southpool) amounted to 764 GWh, while total purchase at those markets amounted to 133 GWh.

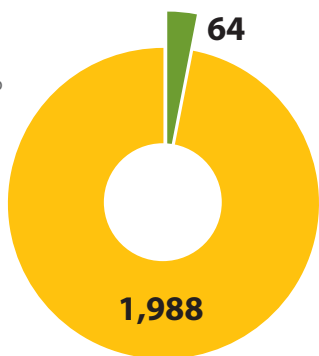




SALE

Out of EPS Group

GWh



- Free market
- According to agreements on business and technical cooperation with ERS

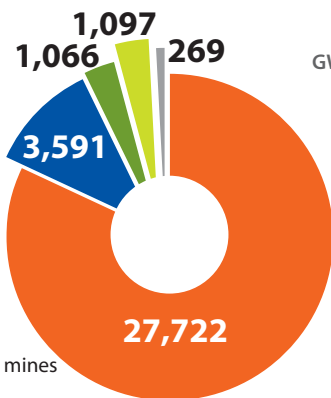
TOTAL

2,052

SALE

In EPS Group

GWh



- EPS Supply
- DSO EPS Distribucija
- Power plants and coal mines
- PSHPP and PSP
- PE Elektrokosmet

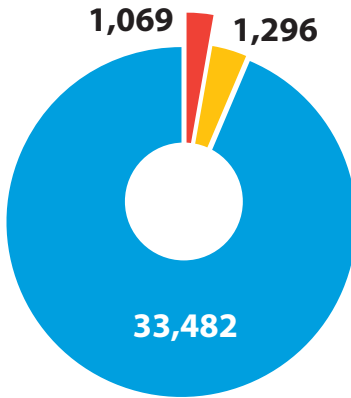
TOTAL

33,745

ENERGY PORTFOLIO REALIZATION BALANCE RESPONSIBLE PARTY PE EPS

AVAILABLE ELECTRICITY

GWh



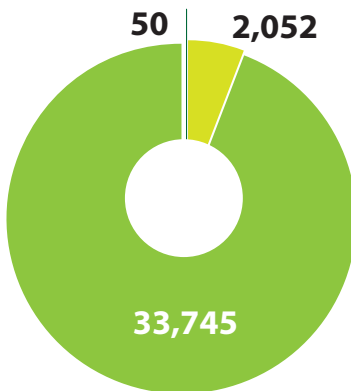
- PE EPS Generation
- Purchasing outside EPS Group - wholesale market and agreements on B-T cooperation
- Purchasing from privileged and other producers outside EPS Group

TOTAL AVAILABLE ELECTRICITY

35,847

ELECTRICITY DELIVERED

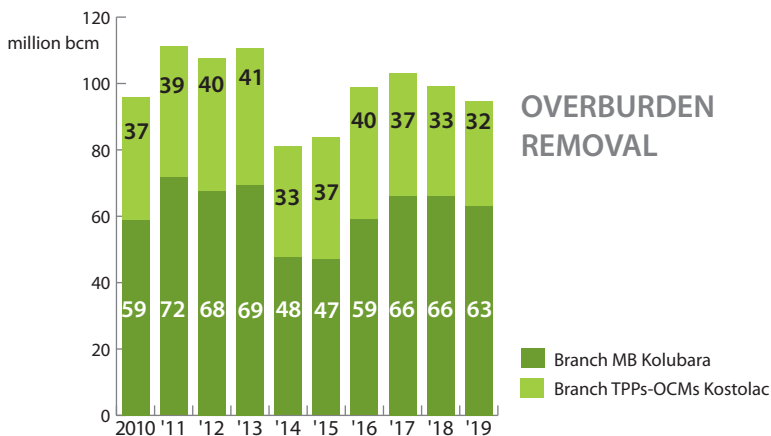
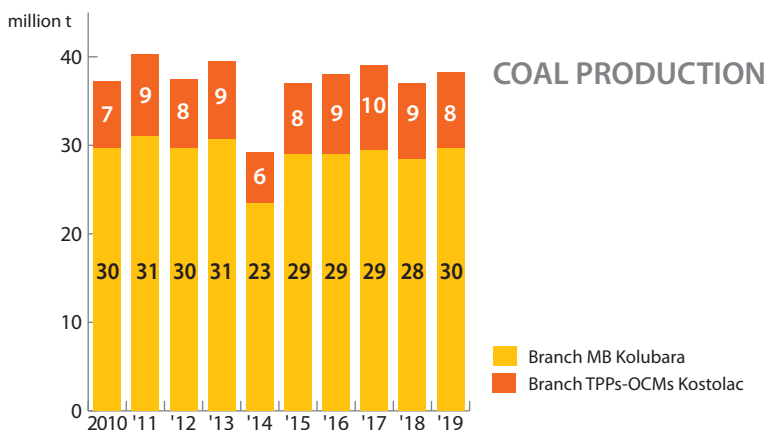
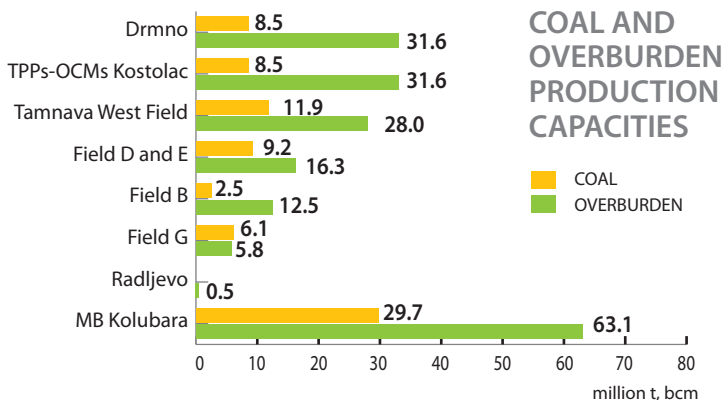
GWh



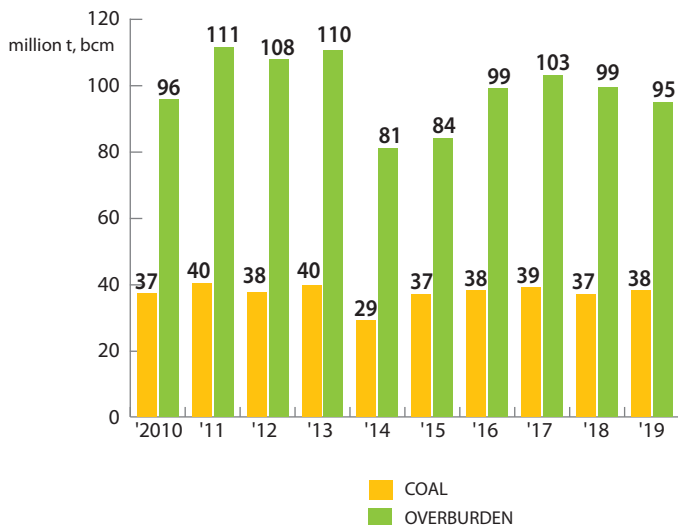
- Sale within EPS Group
- Sale on the Serbian balance market
- Sale outside EPS Group - wholesale market and agreements on B-T cooperation

TOTAL ELECTRICITY DELIVERED

35,847



TOTAL COAL AND OVERBURDEN OUTPUT



STRUCTURE OF SUPPLY OF THE PRODUCED COAL

(t)	MB Kolubara	TPPs-OCMs Kostolac	EPS
For TPPs	28,678,592	8,298,314	36,976,906
For drying	666,110	/	666,110
For industry	163,727	173,605	337,332
For heating plants	193,096	/	193,096
TOTAL	29,701,525	8,471,919	38,173,444

STATISTICAL DATA ON DISTRIBUTION GRID

Distribution areas	Number of substations	Installed capacity of substations (MVA)
Novi Sad	8,042	7,123
Beograd	5,482	7,245
Kraljevo	12,569	8,140
Niš	6,701	5,533
Kragujevac	2,878	2,413
TOTAL	35,672	30,454



- THE PERCENTAGE OF REALIZED LOSSES IN DISTRIBUTION NETWORK

11.73

- CONSTRUCTION/RECONSTRUCTION/RENOVATION OF TRANSFORMER STATIONS

6 to 110/x kV

3 to 35/x kV

276 to 20(10)/0.4 kV

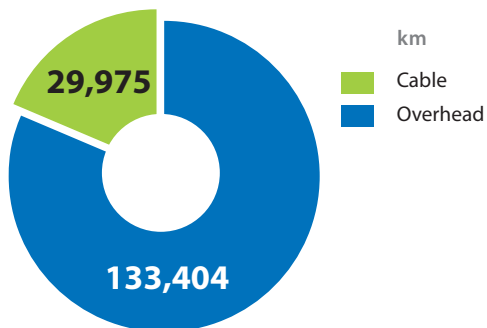
- CONSTRUCTION OF CABLE LINES

35 kV **71.58 km**

20(10) kV **299.31 km**

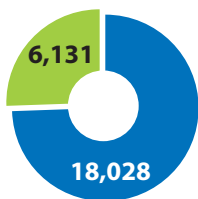
0.4 kV **444.32 km**

STRUCTURE OF DISTRIBUTION LINES (owned by DSO EPS DISTRIBUCIJA)

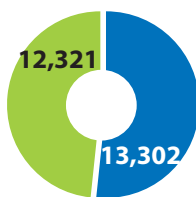


TOTAL **163,379** km

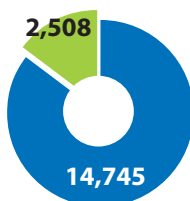
DISTRIBUTION AREAS



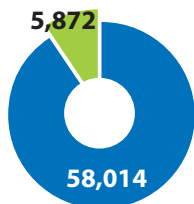
Novi Sad



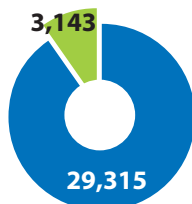
Beograd



Kragujevac



Kraljevo



Niš

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