

## **REPORT**

### **ON POWER FLOWS IN THE TRANSMISSION SYSTEM OF BOSNIA AND HERZEGOVINA IN 2017**

Sarajevo, February 2018

This Report presents power flows in the transmission system in BiH in 2017. It includes main review of power flows and specific indicators and their comparison with previous year.

### Electricity balance in the transmission system

Total amount of 18 069 GWh of electricity was available on the transmission network of BiH in 2017. 14 627 GWh was produced in the transmission system and another 96 GWh of electricity was injected from the distribution network. From the neighbouring systems it was received 3 346 GWh of electricity.

Out of totally available electricity on transmission network, the distribution companies took over 9 722 GWh, customers directly connected to the transmission system took over 2 420 GWh, neighbouring systems were delivered 5 187 GWh, while transmission losses amounted to 342 GWh, which makes 1,89 % of totally available electricity on transmission network. In 2017, PSHPP Čapljina took over 266 GWh.

In 2017 electricity consumption in BiH rose by 2.15% in comparison to 2016.

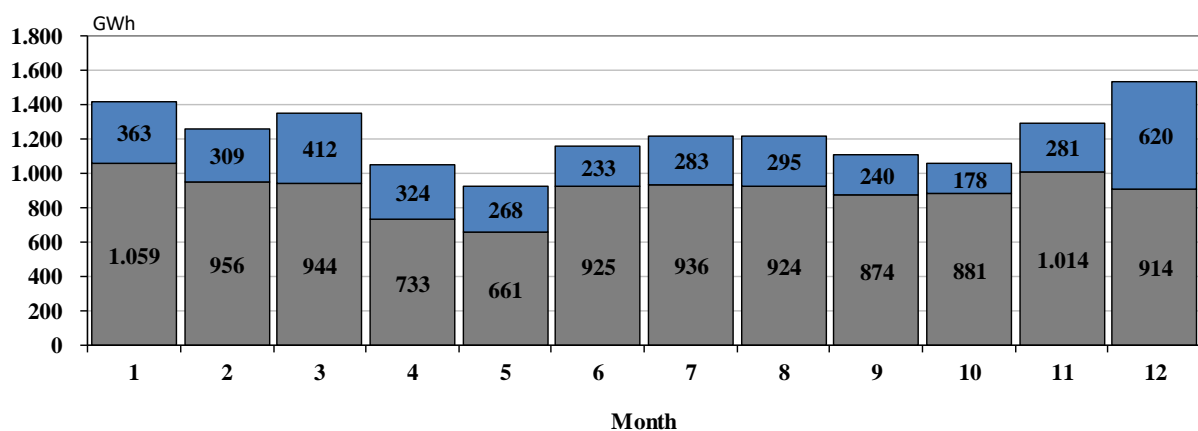
### Electricity generation in the transmission system

Out of totally produced 14 627 GWh of electricity in the transmission system in 2017, Hydro Power Plants produced 3 805 GWh, i.e. 26% of electricity, and Thermal Power Plants produced 10 822 GWh, i.e. 74% of electricity. Due to bad hydrologic conditions Hydro Power Plants in 2017 produced 31.3 % electricity less than it was the case in 2016. Thermal Power Plants produced 2.9% of the electricity more than it was in 2016.

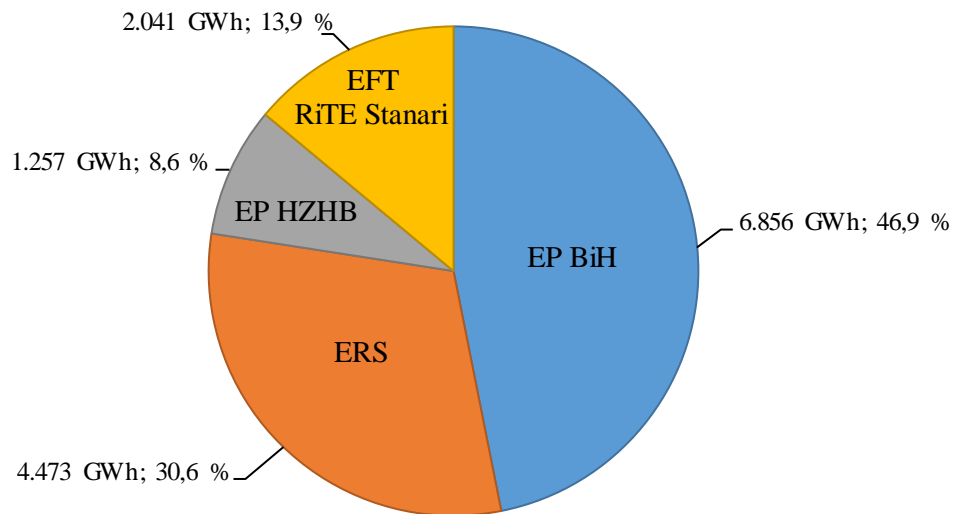
It resulted with 8.89% less production in the transmission system than in 2016.

The following diagrams show the structure of electricity generation throughout the months of 2017 and generation companies' amounts in total amount of BiH electricity generation.

**The structure of electricity consumption through the months in 2017**



### Companies shares in the electricity generation

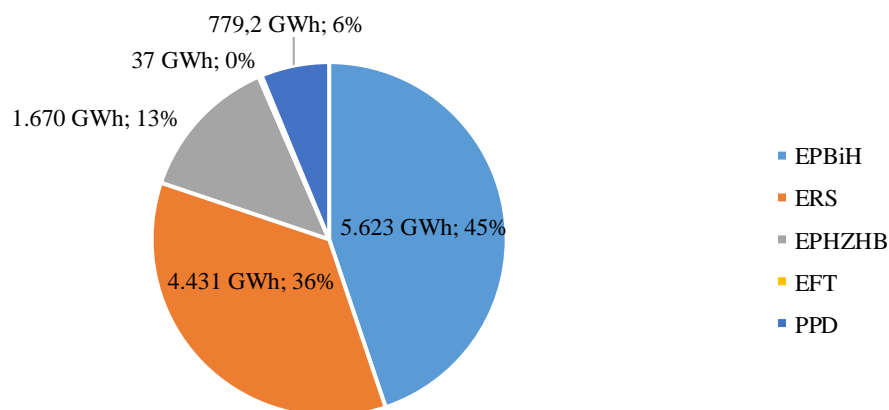


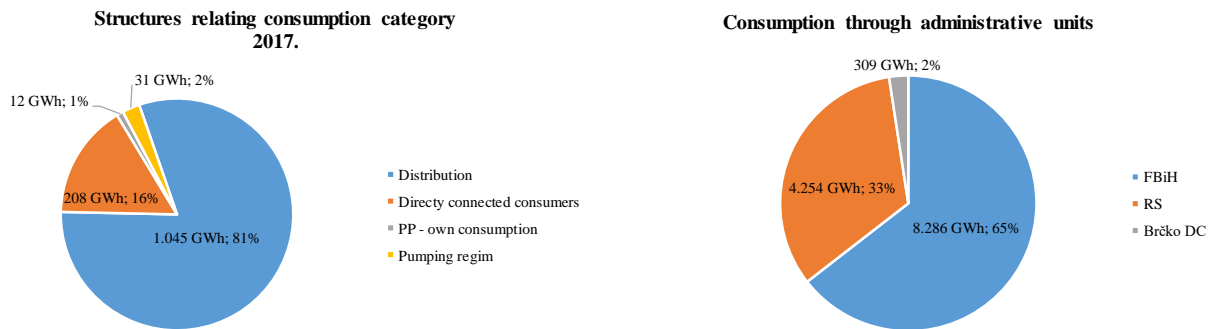
### Electricity consumption in the transmission system

Electricity consumption in the transmission system of BiH in 2017 amounted to 12 540 GWh and was 3.97% higher in comparison to 2016. Consumption of PSHHP Čapljina, in pumping regime, amounted 266.1 GWh in 2017. Distribution companies took over 9 722 GWh from the transmission system, and customers directly connected to the transmission network took over 2 420 GWh of electricity. The power plants' own consumption in 2017 amounted to 132 GWh.

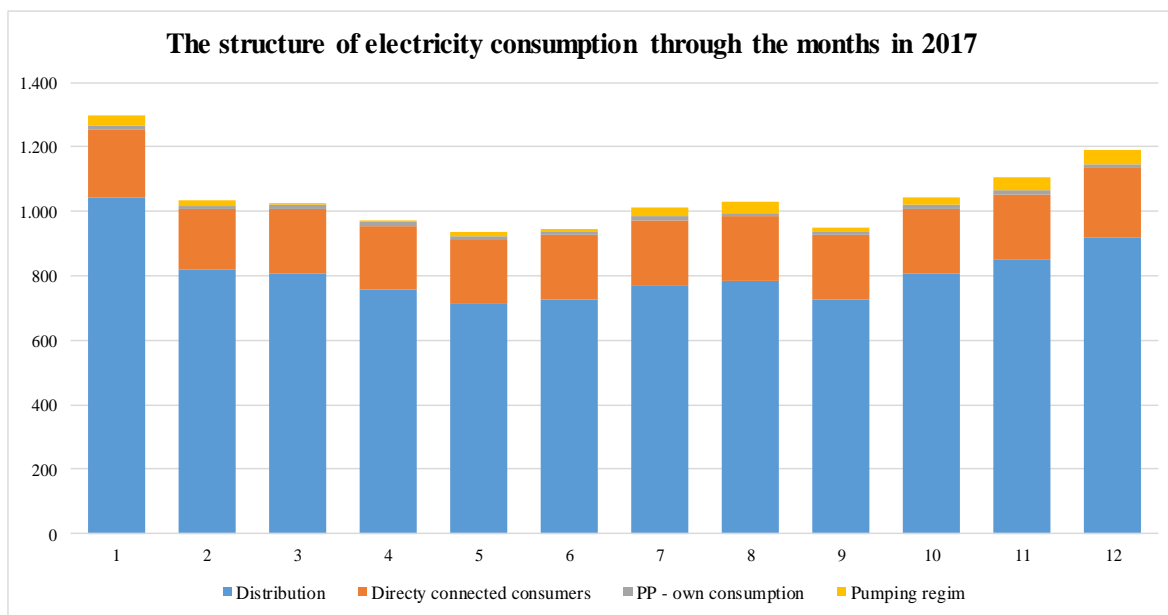
The following diagrams show the consumption of licensed companies as well as the consumption structure in terms of consumption categories and administrative units in BiH.

### Electricity consumption in the BiH transmission system in 2017



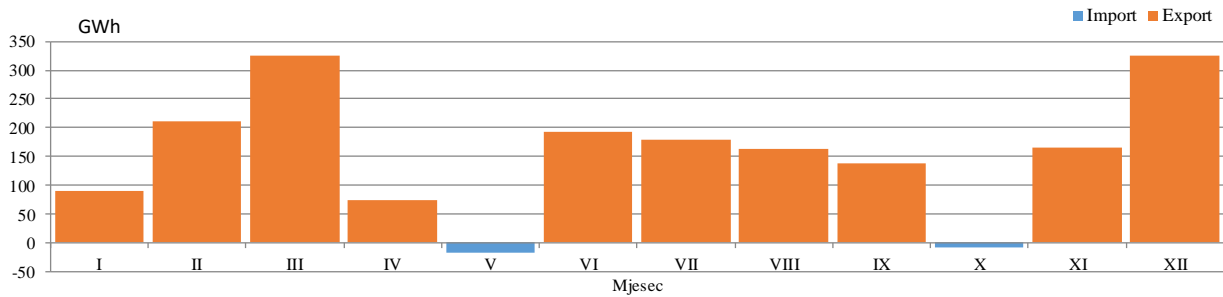


The highest monthly consumption in amount of 1 296 GWh in the transmission system in BiH was measured in January due to very low temperatures. The lowest monthly consumption was in May amounting to 936 GWh of electricity. The following diagram shows monthly consumption in the transmission system in BiH.



### Nominated power exchange with the neighbouring systems

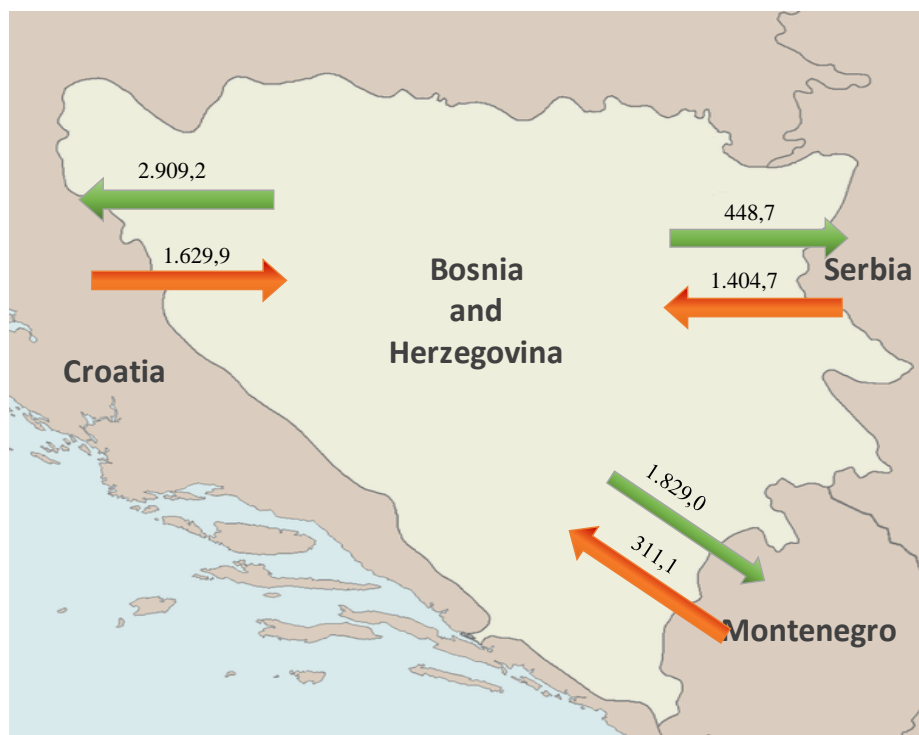
According to nominated exchange programmes, in the year of 2017, 6 597 GWh of electricity was imported in BiH power system, and 8 436 GWh of electricity was exported from BiH power system. In 2017, out of that amount 3 275 GWh of electricity was transited over BiH transmission network. The balance amount of 1 839 GWh of exported energy indicates that export was reduced by 51% compared to 2016.

**Balance of nominated exchange in BiH in 2017**

### Crossborder power flows

Actual physical power flows on tie-lines in 2017 resulted with the balance of exchanged electricity of BiH Control Area in amount of 1 841 GWh in an export direction.

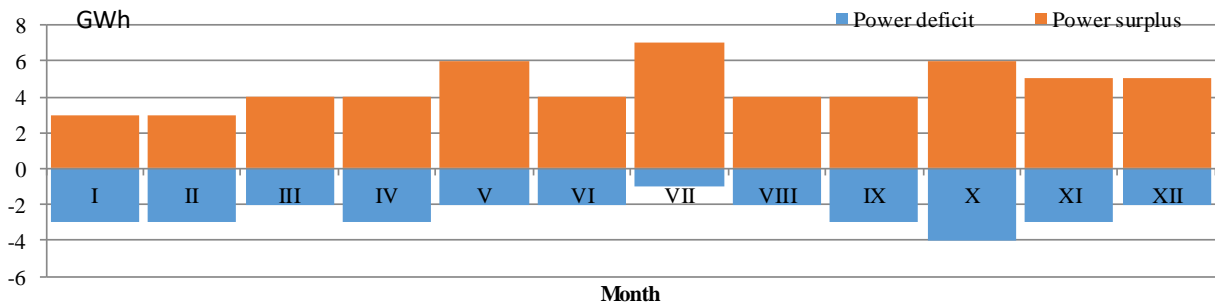
From the neighbouring systems 3 345 GWh was injected in BiH transmission system and in other systems 5 187 GWh of electricity was delivered. Power flows on the borders with neighbouring systems were such that in 2017 on the border with Serbia 956 GWh was injected in BiH transmission system, while on the border with Croatia 1 279 GWh of electricity was delivered, and on the border with Montenegro 1 518 GWh of electricity was delivered.



### Deviations from nominated exchange programmes

Unintentional deviations from nominated exchange programmes in 2017 were 31 GWh in total for the hours when there was deficit registered i.e. 56 GWh for the hours when energy surplus is registered in BiH Control Area. Maximum hourly electricity deficit in amount of 179 MWh/h was registered in December and electricity surplus of 157 MWh/h in October 2017.

**Monthly deviations of ees BiH toward the interconnection 2017**



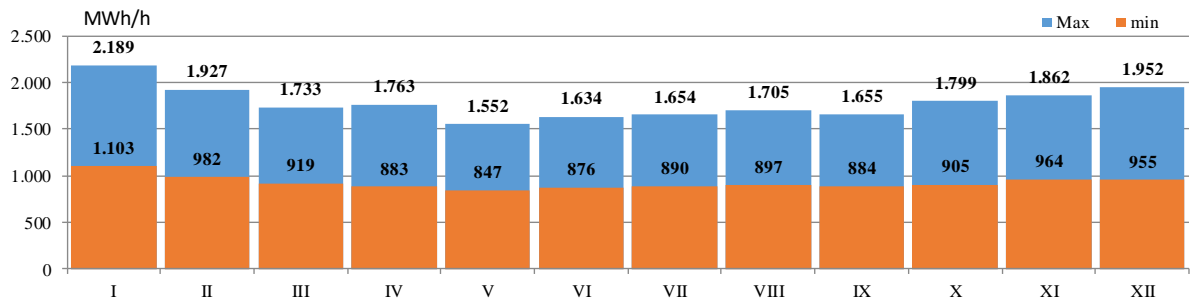
**Specific values of hourly and daily consumption**

Maximum hourly load in 2017 in amount of 2 189 MWh/h was realised on 11<sup>th</sup> January 2017 in 18<sup>th</sup> hour. Maximum daily consumption in amount of 44 294 MWh of electricity was realised on 11<sup>th</sup> January. Minimum hourly consumption in amount of 847 MWh was registered on 2<sup>nd</sup> May in 4<sup>th</sup> hour and minimum daily consumption in amount of 26 674 MWh on 1<sup>st</sup> May 2017.

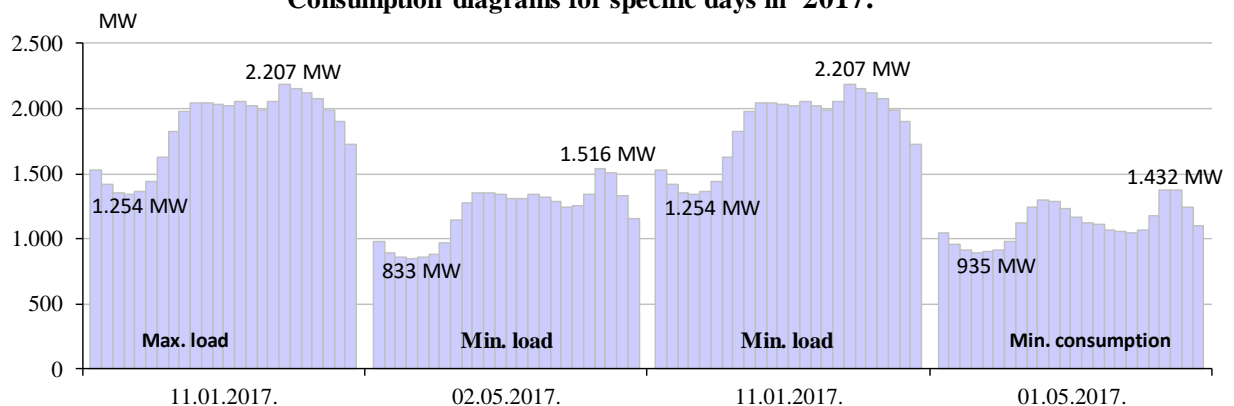
**Specific electricity consumption in 2017.**

Max. hourly load			Min. hourly load			Max. daily consumption		Min. daily consumption	
MWh	Day	Hour	MWh	Day	Hour	MWh	Day	MWh	Day
2.189	11.01.2017.	18:00	847	02.05.2017.	4:00	44.294	11.01.2017.	26.674	01.05.2017.

**Minimum and maximum hourly load through the months in 2017**



**Consumption diagrams for specific days in 2017.**



BALANCE OF ELECTRICITY IN THE TRANSMISSION SYSTEM

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	2017	2017/2016
	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	%
<b>Electricity generation in the transmission system</b>														
(1) HPP	363,4	308,5	412,2	323,5	267,7	232,7	283,2	295,0	239,7	177,6	280,9	620,2	3.804,7	68,67%
(2) TPP	1.059,0	956,1	944,0	732,8	660,8	925,2	936,3	924,2	874,1	881,2	1.013,9	914,4	10.821,9	102,93%
(3) Generation TOTAL (1+2)	1.422,4	1.264,6	1.356,2	1.056,3	928,4	1.157,9	1.219,5	1.219,2	1.113,9	1.058,8	1.294,8	1.534,6	14.626,6	91,11%
(4) Power injection from distribution system	1,6	11,0	19,7	14,5	16,1	4,2	2,3	1,0	1,8	3,2	6,0	14,8	96,1	98,27%
<b>Import from the neighbouring power systems</b>														
(5) from EES Croatia	203,0	77,4	89,5	151,7	183,3	70,5	127,8	148,5	160,6	133,9	133,6	150,2	1.629,9	135,61%
(6) from EES Serbia	100,9	86,0	59,7	76,1	125,8	139,1	169,1	165,5	148,5	168,9	96,8	68,2	1.404,7	111,26%
(7) from EES Montenegro	16,4	48,6	26,5	18,8	14,7	63,1	18,4	14,3	4,9	41,3	13,1	31,0	311,1	50,25%
(8) Import TOTAL (5-7)	320,3	211,9	175,7	246,5	323,9	272,8	315,3	328,3	314,0	344,0	245,5	249,4	3.345,7	108,50%
(9) AVAILABLE ENERGY (3+4+8)	1.744,3	1.487,6	1.551,6	1.317,3	1.268,4	1.434,9	1.537,0	1.548,5	1.429,7	1.406,0	1.544,3	1.798,9	18.068,5	93,93%
<b>Takeover of electricity from the transmission system</b>														
(10) Distribution companies	1.044,8	817,9	806,9	759,6	711,3	727,1	769,9	783,5	725,5	807,3	849,2	918,9	9.722,1	101,94%
(11) Directly connected consumers *	207,6	187,8	200,5	195,4	202,3	198,2	202,8	201,6	199,6	201,2	205,2	217,5	2.419,8	103,35%
(12) Own consumption power	12,1	10,4	11,4	11,1	10,4	9,8	10,9	10,5	11,3	13,0	10,4	10,7	132,0	96,15%
(13) Takeover TOTAL (10+11+12)	1.264,5	1.016,2	1.018,8	966,1	924,0	935,2	983,6	995,6	936,4	1.021,5	1.064,8	1.147,0	12.273,9	102,15%
<b>Export to the neighbouring power systems</b>														
(14) for EES Croatia	190,8	298,9	319,5	170,8	154,8	384,3	298,4	254,4	174,9	227,9	172,6	262,1	2.909,2	62,47%
(15) for EES Serbia	38,3	29,5	59,7	42,9	29,3	19,9	26,0	28,2	41,7	16,8	37,4	78,9	448,7	103,74%
(16) for EES Montenegro	182,6	95,4	122,4	105,0	125,0	59,4	171,8	206,1	236,6	91,8	198,6	234,4	1.829,0	104,46%
(17) Export TOTAL (13-15)	411,7	423,8	501,6	318,7	309,0	463,6	496,3	488,7	453,2	336,4	408,6	575,3	5.187,0	75,82%
(18) Pumping	31,5	19,4	3,1	6,9	11,6	9,7	28,2	35,4	13,5	21,2	42,3	43,1	266,1	575,82%
(19) REQUIRED POWER (3+17+18)	1.707,7	1.459,5	1.523,6	1.291,8	1.244,7	1.408,4	1.508,1	1.519,7	1.403,1	1.379,1	1.515,8	1.765,5	17.726,9	93,78%
<b>Transmission losses</b>														
(20) Transmission losses (9-18)	36,6	28,1	28,0	25,5	23,8	26,5	29,0	28,8	26,6	26,9	28,5	33,4	341,5	102,47%
(21) In relation to available power (19)/(9)	2,10%	1,89%	1,81%	1,93%	1,87%	1,85%	1,88%	1,86%	1,86%	1,91%	1,84%	1,85%	1,89%	

## ELECTRICITY GENERATION IN THE TRANSMISSION SYSTEM

GENERATION	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	2017	2017/2016
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	%
HPP Jablanica	44	36	51	41	27	31,3	36,5	38,5	39,5	30,7	36,2	75,7	488,0	64,98%
HPP Grabovica	20	16	21	16	11	11,0	12,5	13,3	14,7	12,1	16,9	31,5	195,4	72,77%
HPP Salakovac	21	26	33	22	15	10,8	11,0	11,1	16,6	12,2	27,4	56,0	262,0	68,94%
HPP Višegrad	42	78	109	86	75	49,5	27,9	28,1	14,3	21,4	49,4	145,8	726,3	67,37%
HPP Trebinje 1	30	5	9	22	4	12,7	30,4	29,9	21,6	7,5	3,0	16,8	192,1	42,65%
HPP Trebinje 2	0	0	0	0	0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
HPP Dubrovnik (G2)	61	15	24	36	10	7,3	58,4	59,9	53,3	17,6	19,7	68,0	429,9	53,42%
HPP Bošac	10	23	38	30	30	15,3	10,0	7,4	7,1	10,9	13,6	32,4	226,8	90,16%
HPP Dub	2	3	4	4	4	2,6	1,5	0,9	0,7	0,9	1,4	3,5	27,3	77,00%
HPP Rama	69	25	17	6	29	50,3	49,9	58,8	38,9	27,3	35,6	22,1	429,4	62,48%
HPP Mostar	14	17	21	14	11	8,8	8,6	8,7	11,4	9,5	18,0	31,8	175,1	75,48%
HPP Jajce 1	11	22	36	29	31	17,0	10,6	6,8	6,1	7,8	11,0	29,4	218,1	89,25%
HPP Jajce 2	5	7	11	9	9	5,7	4,3	3,3	3,2	3,2	4,4	8,1	72,3	86,76%
PSHPP Čapljina	28	20	15	5	10	9,9	21,6	28,4	12,3	16,5	38,7	72,3	278,4	191,57%
HPP Peć-Mlini	2	5	9	2	2	0,5	0,0	0,0	0,0	0,0	0,8	6,3	27,5	60,59%
HPP Mostarsko Blato	3	10	14	2	2	0,1	0,0	0,0	0,0	0,0	4,8	20,5	56,1	67,55%
<b>HYDRO POWER PLANTS</b>	<b>363,4</b>	<b>308,5</b>	<b>412,2</b>	<b>323,5</b>	<b>267,7</b>	<b>232,7</b>	<b>283,2</b>	<b>295,0</b>	<b>239,7</b>	<b>177,6</b>	<b>280,9</b>	<b>620,2</b>	<b>3804,7</b>	<b>68,67%</b>
TPP Tužla	3,21	2,53	2,67	2,18	2,12	2,09,2	3,53,1	3,34,2	2,94,2	3,43,7	2,66,5	2,27,3	3,298,6	93,34%
TPP Kakanj	2,24	2,33	2,16	2,00	1,42	2,30,0	2,38,1	2,34,1	2,48,9	2,16,8	2,36,4	1,92,3	2,612,1	121,38%
TPP Ugljevik	1,50	1,60	1,55	1,53	1,66	1,53,5	0,0	0,0	0,0	40,1	1,59,5	1,49,0	1,284,9	73,42%
TPP Gacko	1,57	1,26	1,51	0	1,41	1,47,4	1,41,8	1,53,3	1,35,1	1,39,0	1,52,5	1,41,1	1,585,7	104,90%
TPP Slanari	2,07	1,85	1,55	1,62	0	1,85,0	2,03,3	2,02,5	1,95,9	1,41,6	1,99,0	2,04,7	2,040,6	130,31%
<b>THERMAL POWER PLANTS</b>	<b>1.059,0</b>	<b>956,1</b>	<b>944,0</b>	<b>732,8</b>	<b>660,8</b>	<b>925,2</b>	<b>936,3</b>	<b>924,2</b>	<b>874,1</b>	<b>881,2</b>	<b>1013,9</b>	<b>914,4</b>	<b>10821,9</b>	<b>102,93%</b>
<b>GENERATION</b>	<b>1.422,4</b>	<b>1.264,6</b>	<b>1.356,2</b>	<b>1.056,3</b>	<b>928,4</b>	<b>1157,9</b>	<b>1219,5</b>	<b>1219,2</b>	<b>1113,9</b>	<b>1058,8</b>	<b>1294,8</b>	<b>1534,6</b>	<b>14626,6</b>	<b>91,11%</b>



## ELECTRICITY CONSUMPTION IN THE TRANSMISSION SYSTEM

CONSUMPTION	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	2017	2017/2016
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	%
Take over from the transmission system	1296,0	1035,7	1022,0	973,1	935,6	944,9	1011,8	1031,0	949,9	1042,7	1107,2	1190,2	12540,0	103,97%
Distribution	451,1	354,4	359,8	339,2	321,8	326,8	339,6	347,5	322,1	359,0	372,4	400,1	4293,8	99,64%
Directly connected consumers	171,6	155,1	164,6	160,2	166,1	162,8	38,7	36,0	39,7	38,0	45,3	47,9	1225,9	267,37%
PP - own consumption	9,5	9,0	9,3	7,9	7,1	8,3	8,7	8,6	8,6	8,8	8,8	9,0	103,7	105,05%
<b>EPBH</b>	<b>632,2</b>	<b>518,5</b>	<b>533,7</b>	<b>507,3</b>	<b>495,0</b>	<b>497,9</b>	<b>386,9</b>	<b>392,1</b>	<b>370,4</b>	<b>405,8</b>	<b>426,6</b>	<b>456,9</b>	<b>5623,4</b>	<b>115,56%</b>
Distribution	441,3	347,8	335,3	315,9	289,8	296,4	315,7	314,7	301,2	337,0	356,7	384,4	4036,4	104,63%
Directly connected consumers	16,5	15,1	35,8	35,0	35,9	35,1	36,1	35,8	32,4	29,8	30,5	36,6	374,8	248,98%
PP - own consumption	1,3	0,9	1,6	2,6	2,9	1,0	1,5	0,9	1,8	3,4	1,1	1,1	20,1	156,49%
<b>ERS</b>	<b>459,2</b>	<b>363,8</b>	<b>372,7</b>	<b>353,5</b>	<b>328,6</b>	<b>332,5</b>	<b>353,3</b>	<b>351,4</b>	<b>335,4</b>	<b>370,3</b>	<b>388,3</b>	<b>422,2</b>	<b>4431,3</b>	<b>110,20%</b>
Distribution	152,4	115,7	111,8	104,5	99,7	103,9	114,6	121,3	102,2	111,2	120,0	134,4	1392,0	101,60%
Directly connected consumers	0,2	0,3	0,2	0,3	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,3	3,4	0,22%
PP - own consumption	1,3	0,6	0,5	0,5	0,4	0,5	0,8	1,0	0,8	0,7	0,5	0,6	8,1	57,68%
Pumping regim - PHE Čapljina	31,5	19,4	3,1	6,9	11,6	9,7	28,2	35,4	13,5	21,2	42,3	43,1	266,1	575,82%
<b>EPHZHB</b>	<b>185,3</b>	<b>136,1</b>	<b>115,5</b>	<b>112,3</b>	<b>112,0</b>	<b>114,4</b>	<b>144,0</b>	<b>158,0</b>	<b>116,9</b>	<b>133,5</b>	<b>163,2</b>	<b>178,3</b>	<b>1669,6</b>	<b>56,87%</b>
Distribution	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
Directly connected consumers	19,2	17,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	36,5	16,11%
PP - own consumption	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,00%
<b>EFT</b>	<b>19,2</b>	<b>17,3</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>36,5</b>	<b>15,33%</b>
Distribution	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
Directly connected consumers	0,0	0,0	0,0	0,0	0,0	0,0	127,6	129,4	127,2	133,1	129,1	132,7	779,2	
PP - own consumption	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
<b>PPD</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>127,6</b>	<b>129,4</b>	<b>127,2</b>	<b>133,1</b>	<b>129,1</b>	<b>132,7</b>	<b>779,2</b>	

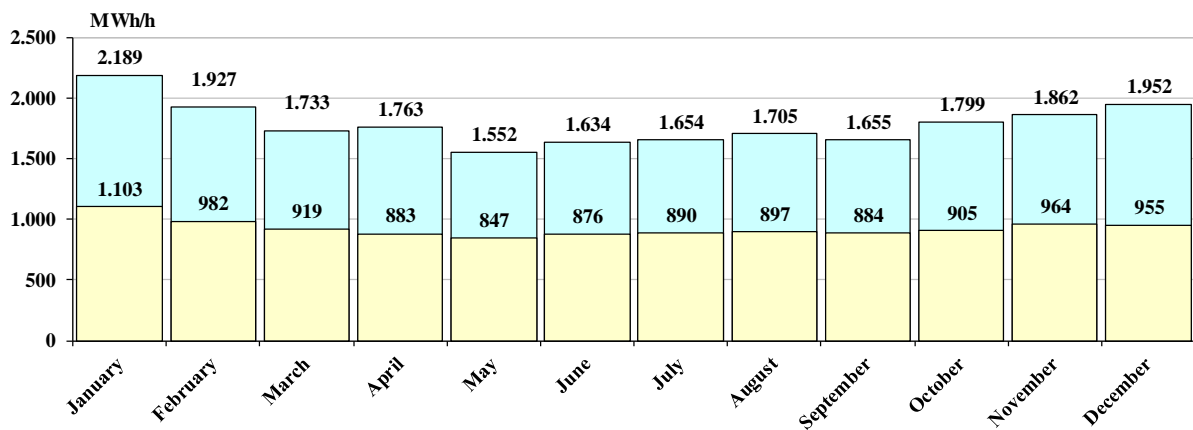
**Data on specific hourly and daily consumption in 2017.**

Month	Max.hourly consumption			Min.hourly consumption			Max.daily consumption		Min.daily consumption	
	MWh/h	Day	Hour	MWh/h	Day	Hour	MWh	Day	MWh	Day
January	2.189	11.01.2017	18	1.103	14.01.2017	5	44.294	11.01.2017	35.979	01.01.2017
February	1.927	01.02.2017	18	982	06.02.2017	4	39.317	01.02.2017	32.530	28.02.2017
March	1.733	13.03.2017	20	919	25.03.2017	4	34.668	08.03.2017	29.590	26.03.2017
April	1.763	20.04.2017	21	883	03.04.2017	4	35.853	20.04.2017	28.961	02.04.2017
May	1.552	11.05.2017	21	847	02.05.2017	4	30.735	10.05.2017	26.674	01.05.2017
June	1.634	24.06.2017	15	876	11.06.2017	6	33.333	24.06.2017	28.316	18.06.2017
July	1.654	11.07.2017	15	890	03.07.2017	4	33.472	11.07.2017	28.380	02.07.2017
August	1.705	31.08.2017	21	897	21.08.2017	4	34.117	04.08.2017	28.468	13.08.2017
September	1.655	26.09.2017	20	884	04.09.2017	4	32.235	28.09.2017	28.638	03.09.2017
October	1.799	30.10.2017	18	905	01.10.2017	4	34.794	31.10.2017	29.540	01.10.2017
November	1.862	20.11.2017	18	964	13.11.2017	4	36.908	17.11.2017	32.461	12.11.2017
December	1.952	21.12.2017	18	955	12.12.2017	4	39.187	21.12.2017	33.707	12.12.2017
<b>2017</b>	<b>2.189</b>	<b>11.01.2017</b>	<b>18</b>	<b>847</b>	<b>02.05.2017</b>	<b>4</b>	<b>44.294</b>	<b>11.01.2017</b>	<b>26.674</b>	<b>01.05.2017</b>

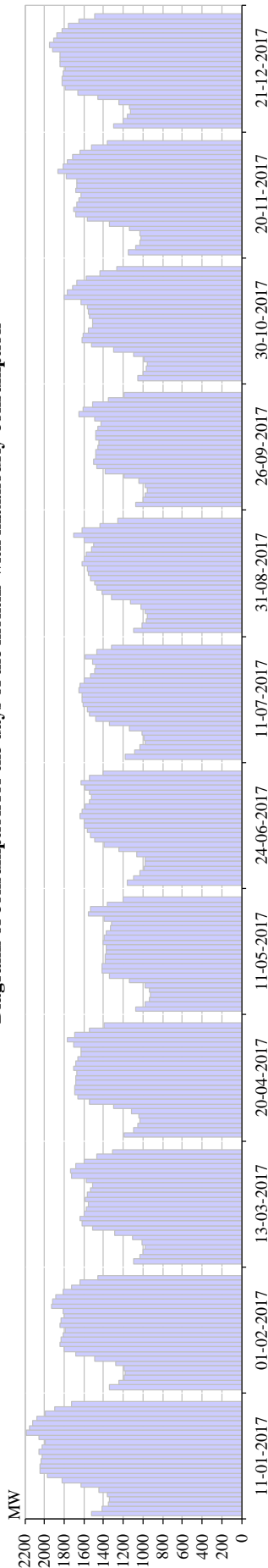
**Specific electricity consumption in 2017.**

Max. hourly load			Min. hourly load			Max. daily consumption		Min. daily consumption	
MWh	Day	Hour	MWh	Day	Hour	MWh	Day	MWh	Day
2.189	11.01.2017.	18:00	847	02.05.2017.	4:00	44.294	11.01.2017.	26.674	01.05.2017.

**Minimum and maximum hourly load through the months in 2017**



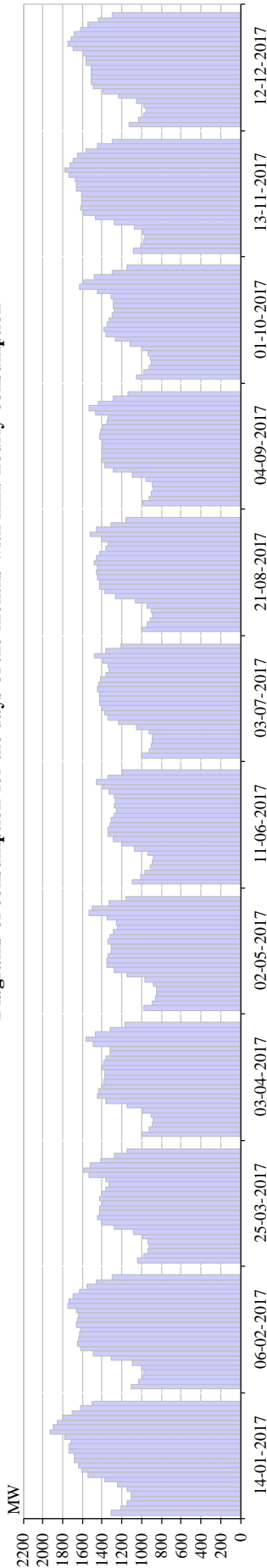
Diagrams of consumption for the days of the months with max.hourly consumption



Diagrams of consumption for the days of the months with max.hourly consumption

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Σ	
<b>January</b>	1522	1415	1354	1340	1358	1442	1624	1819	1976	2049	2049	2036	2027	2057	2021	1994	2060	2189	2150	2123	2075	1991	1898	1726	44,294	
<b>February</b>	1342	1240	1193	1180	1191	1274	1492	1677	1794	1842	1832	1813	1794	1845	1836	1803	1811	1927	1917	1881	1812	1730	1634	1458	39,317	
<b>March</b>	1100	1032	999	981	1005	1108	1290	1510	1620	1636	1592	1579	1557	1581	1563	1535	1515	1570	1729	1733	1677	1592	1463	1303	34,271	
<b>April</b>	1195	1095	1052	1027	1041	1120	1297	1538	1656	1695	1693	1686	1680	1669	1706	1685	1662	1631	1626	1700	1763	1698	1544	1394	35,853	
<b>May</b>	1068	975	930	921	933	981	1133	1345	1416	1418	1388	1382	1370	1368	1407	1394	1367	1327	1317	1398	1552	1527	1357	1206	30,478	
<b>June</b>	1162	1099	1036	989	974	976	1064	1247	1396	1490	1530	1568	1597	1602	1634	1619	1588	1538	1492	1475	1547	1583	1624	1540	1404	33,333
<b>July</b>	1181	1079	1031	982	988	1011	1140	1341	1478	1548	1565	1608	1618	1622	1654	1635	1595	1537	1492	1475	1513	1588	1472	1317	33,472	
<b>August</b>	1091	1011	972	960	972	1017	1127	1323	1414	1466	1488	1527	1557	1570	1621	1598	1573	1524	1500	1595	1705	1613	1433	1260	32,915	
<b>September</b>	1075	1004	977	960	974	1038	1189	1384	1474	1501	1482	1477	1459	1444	1479	1474	1458	1427	1489	1655	1606	1507	1346	1192	32,069	
<b>October</b>	1050	996	967	961	986	1094	1302	1519	1614	1603	1555	1510	1516	1545	1552	1562	1626	1799	1766	1718	1666	1578	1432	1267	34,183	
<b>November</b>	1150	1070	1035	1015	1036	1132	1345	1561	1683	1705	1666	1650	1632	1677	1674	1670	1779	1862	1811	1772	1711	1637	1517	1358	36,148	
<b>December</b>	1296	1204	1156	1131	1142	1242	1455	1659	1784	1823	1818	1807	1785	1839	1838	1841	1913	1952	1901	1878	1826	1753	1654	1489	39,187	

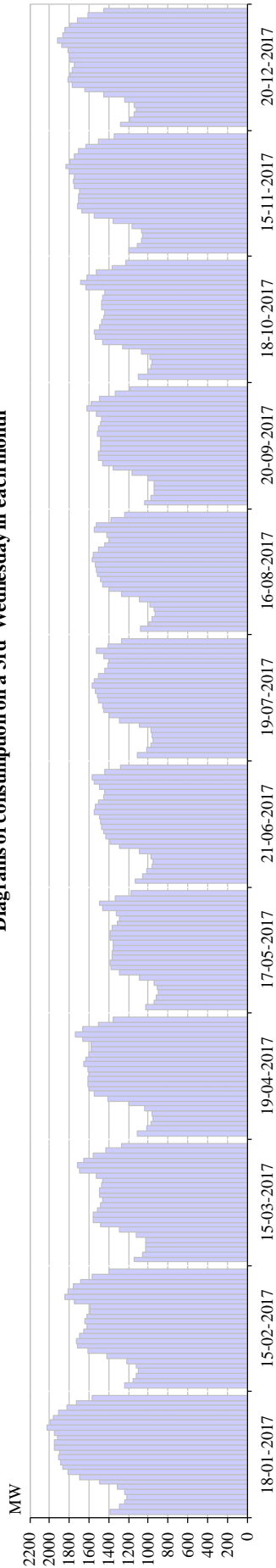
Diagrams of consumption for the days of the months with min. hourly consumption



Diagrams of consumption for the days of the months with min. hourly consumption

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Σ
<b>January</b>	1313	1211	1149	1110	1103	1147	1247	1375	1546	1612	1638	1678	1679	1734	1731	1715	1781	1923	1893	1854	1802	1708	1623	1499	37,069
<b>February</b>	1108	1033	992	982	1000	1094	1308	1494	1613	1645	1635	1627	1620	1657	1654	1640	1656	1741	1735	1693	1634	1555	1457	1301	34,872
<b>March</b>	1047	975	930	919	933	983	1083	1273	1406	1444	1430	1421	1406	1429	1400	1363	1331	1359	1535	1585	1526	1411	1275	1144	30,612
<b>April</b>	994	928	891	883	897	987	1153	1362	1443	1439	1408	1388	1376	1369	1403	1388	1360	1321	1321	1485	1561	1473	1315	1168	30,313
<b>May</b>	978	894	860	847	854	881	969	1145	1279	1348	1351	1337	1309	1306	1337	1316	1288	1241	1254	1346	1537	1504	1331	1157	28,667
<b>June</b>	1090	1013	967	911	895	876	932	1071	1206	1290	1337	1338	1320	1307	1276	1260	1272	1267	1272	1332	1397	1453	1345	1194	28,623
<b>July</b>	999	928	905	890	893	924	1049	1231	1338	1376	1403	1427	1426	1428	1449	1436	1413	1359	1332	1338	1394	1479	1359	1213	29,989
<b>August</b>	1000	941	916	897	903	950	1061	1262	1377	1426	1424	1452	1455	1452	1483	1462	1427	1364	1341	1410	1522	1457	1312	1164	30,458
<b>September</b>	989	924	898	884	890	954	1094	1285	1377	1406	1398	1404	1397	1391	1424	1413	1389	1348	1345	1474	1537	1436	1284	1138	30,078
<b>October</b>	1052	972	924	905	909	936	994	1121	1270	1358	1380	1354	1327	1293	1281	1289	1285	1308	1444	1628	1587	1474	1301	1144	29,540
<b>November</b>	1080	1011	974	964	987	1073	1272	1472	1583	1618	1612	1611	1611	1660	1658	1671	1736	1782	1726	1694	1648	1568	1446	1299	34,755
<b>December</b>	1131	1035	975	955	974	1054	1232	1391	1485	1507	1512	1509	1507	1561	1570	1589	1694	1744	1710	1679	1618	1542	1440	1293	33,707

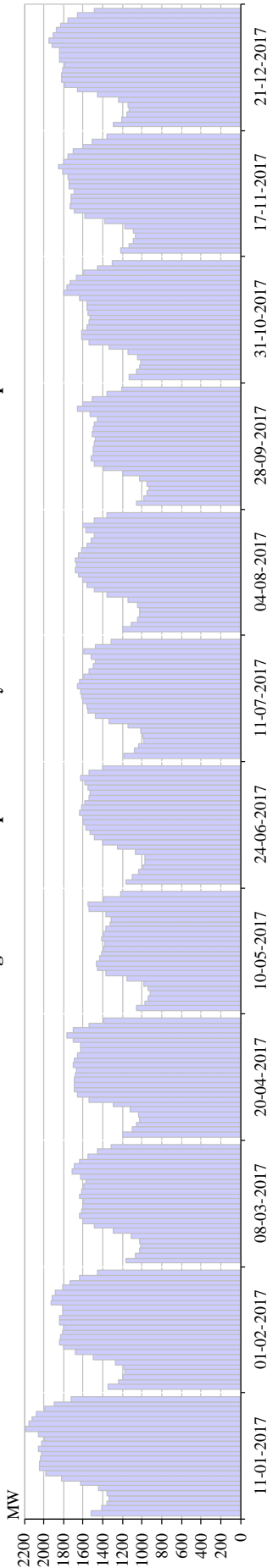
Diagrams of consumption on a 3rd Wednesday in each month



Diagrams of consumption on a 3rd Wednesday in each month

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Σ
<b>January</b>	1389	1292	1241	1221	1236	1314	1497	1693	1816	1870	1891	1906	1897	1948	1949	1920	1946	2025	1989	1962	1904	1826	1732	1564	41,028
<b>February</b>	1241	1156	1117	1098	1117	1214	1415	1610	1715	1724	1693	1658	1617	1642	1619	1591	1594	1751	1841	1814	1757	1680	1566	1402	36,631
<b>March</b>	1143	1057	1028	1021	1027	1124	1294	1480	1559	1561	1513	1482	1460	1497	1489	1467	1458	1524	1691	1715	1652	1558	1432	1270	33,505
<b>April</b>	1107	1016	970	953	967	1036	1194	1412	1545	1602	1613	1606	1604	1608	1649	1632	1603	1574	1579	1659	1736	1664	1501	1352	34,181
<b>May</b>	1029	944	914	897	912	943	1087	1289	1373	1386	1362	1366	1360	1353	1390	1389	1365	1310	1294	1323	1462	1490	1329	1169	29,736
<b>June</b>	1131	1056	1010	960	948	969	1091	1287	1382	1431	1446	1475	1486	1496	1547	1541	1509	1451	1440	1490	1544	1566	1438	1286	31,979
<b>July</b>	1109	1015	975	951	958	971	1091	1287	1401	1447	1462	1500	1511	1530	1566	1542	1503	1445	1413	1399	1454	1523	1409	1271	31,734
<b>August</b>	1077	996	958	931	941	987	1085	1272	1396	1461	1484	1515	1524	1532	1566	1555	1503	1445	1403	1415	1549	1522	1376	1237	31,731
<b>September</b>	1037	977	945	936	942	1009	1160	1360	1460	1504	1499	1488	1481	1480	1513	1499	1481	1475	1521	1620	1577	1488	1330	1189	31,969
<b>October</b>	1099	1007	977	959	979	1064	1265	1463	1535	1543	1496	1472	1449	1437	1474	1474	1456	1445	1627	1680	1623	1527	1366	1232	32,648
<b>November</b>	1191	1109	1065	1052	1066	1160	1360	1551	1671	1716	1710	1708	1700	1743	1755	1753	1798	1838	1791	1752	1708	1629	1506	1342	36,674
<b>December</b>	1276	1188	1137	1122	1141	1238	1447	1644	1771	1808	1796	1767	1748	1793	1799	1808	1871	1916	1867	1843	1791	1721	1606	1450	38,547

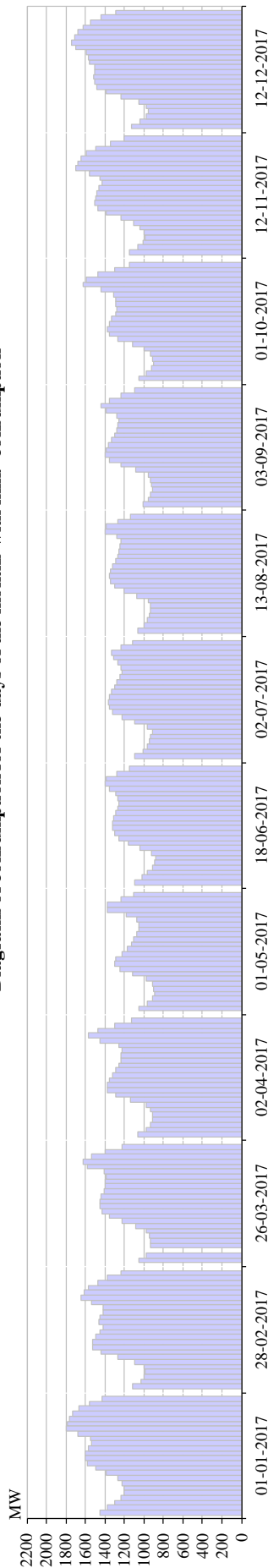
Diagrams of consumption for the days of the months with max. consumption



Diagrams of consumption for the days of the months with max. consumption

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Σ
<b>January</b>	1522	1415	1354	1340	1358	1442	1624	1819	1976	2049	2049	2036	2027	2057	2021	1994	2060	2189	2150	2123	2075	1991	1898	1726	44.294
<b>February</b>	1342	1240	1193	1180	1191	1274	1492	1677	1794	1842	1832	1813	1794	1845	1836	1803	1811	1927	1917	1881	1812	1730	1634	1458	39.317
<b>March</b>	1165	1070	1025	1015	1029	1113	1295	1490	1600	1637	1619	1607	1597	1633	1619	1590	1576	1630	1713	1691	1634	1550	1455	1315	34.668
<b>April</b>	1195	1095	1052	1027	1041	1120	1297	1538	1656	1695	1693	1686	1680	1669	1706	1685	1662	1631	1626	1700	1763	1698	1544	1394	35.853
<b>May</b>	1062	973	935	922	935	986	1151	1369	1459	1464	1428	1414	1392	1380	1408	1392	1367	1325	1313	1367	1544	1548	1385	1219	30.735
<b>June</b>	1162	1099	1036	989	974	976	1064	1247	1396	1490	1530	1568	1597	1602	1634	1619	1588	1537	1527	1547	1583	1624	1540	1404	33.333
<b>July</b>	1181	1079	1031	982	988	1011	1140	1341	1478	1548	1565	1608	1618	1622	1654	1635	1595	1537	1492	1475	1513	1588	1472	1317	33.472
<b>August</b>	1202	1106	1047	1022	1020	1046	1147	1353	1482	1562	1608	1652	1676	1667	1679	1650	1611	1564	1518	1491	1570	1601	1482	1362	34.117
<b>September</b>	1059	986	951	933	944	1022	1192	1389	1482	1521	1498	1498	1489	1473	1512	1501	1481	1455	1525	1655	1602	1508	1353	1204	32.235
<b>October</b>	1136	1059	1024	1011	1043	1147	1335	1539	1620	1616	1563	1543	1530	1554	1562	1564	1634	1795	1768	1733	1673	1590	1455	1301	34.794
<b>November</b>	1218	1127	1086	1064	1086	1175	1377	1578	1691	1734	1727	1722	1694	1741	1748	1754	1810	1848	1802	1757	1697	1607	1503	1361	36.908
<b>December</b>	1296	1204	1156	1131	1142	1242	1455	1659	1784	1823	1818	1807	1785	1839	1838	1841	1913	1952	1901	1878	1826	1753	1654	1489	39.187

Diagrams of consumption for the days of the months with min. consumption



Diagrams of consumption for the days of the months with min. consumption

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Σ
January	1453	1371	1297	1232	1198	1198	1219	1268	1388	1497	1576	1606	1604	1571	1535	1552	1681	1795	1781	1768	1732	1665	1561	1433	35,979
February	1117	1033	993	982	1001	1100	1264	1437	1525	1525	1489	1447	1423	1462	1449	1419	1421	1532	1650	1613	1565	1471	1374	1238	32,530
March	1052	978	937	937	928	949	972	1082	1229	1351	1426	1448	1447	1440	1409	1398	1394	1383	1410	1576	1621	1540	1395	1225	29,590
April	1065	976	931	907	909	938	975	1133	1287	1372	1378	1350	1321	1293	1257	1237	1234	1228	1258	1456	1568	1469	1299	1122	28,961
May	1047	962	915	893	897	911	977	1119	1244	1300	1285	1228	1167	1123	1106	1071	1055	1048	1068	1176	1372	1371	1238	1102	26,674
June	1089	1016	969	910	892	883	918	1042	1164	1254	1299	1320	1318	1310	1287	1267	1257	1266	1284	1357	1393	1388	1280	1151	28,316
July	1091	1008	961	941	929	910	964	1098	1228	1318	1354	1361	1349	1332	1301	1274	1244	1225	1233	1264	1315	1332	1237	1111	28,380
August	1060	995	965	941	935	938	954	1074	1207	1301	1339	1352	1338	1322	1286	1265	1259	1244	1238	1273	1396	1384	1265	1135	28,468
September	1013	955	929	910	918	935	956	1084	1239	1348	1392	1386	1364	1330	1298	1277	1262	1252	1281	1385	1441	1357	1233	1094	28,638
October	1052	972	924	905	909	936	994	1121	1270	1358	1380	1354	1327	1293	1281	1289	1285	1308	1444	1628	1587	1474	1301	1144	29,540
November	1145	1061	1013	990	996	1035	1102	1235	1386	1477	1503	1492	1480	1462	1434	1448	1558	1700	1673	1646	1591	1491	1342	1202	32,461
December	1131	1035	975	955	974	1054	1232	1391	1485	1507	1512	1509	1507	1561	1570	1589	1694	1744	1710	1679	1618	1542	1440	1293	33,707

## SCHEDULED PROGRAMS WITH NEIGHBOURING TSOs

SCHEDULED FLOWS	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	2017
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
BiH → HR (HEP-OPS)	437,7	205,7	198,2	290,6	361,0	145,1	265,0	306,8	312,3	338,3	403,9	324,7	3.589,3
BiH < SR (EMS)	194,9	141,4	185,4	173,2	281,4	282,3	267,3	244,7	238,1	254,0	235,3	138,6	2.636,6
BiH < CG (EPCG)	39,8	43,1	24,2	32,8	14,2	41,9	26,7	31,6	7,7	37,5	17,1	54,9	371,5
<b>(1) Import BiH</b>	<b>672,4</b>	<b>390,2</b>	<b>407,8</b>	<b>496,7</b>	<b>656,7</b>	<b>469,4</b>	<b>559,0</b>	<b>583,0</b>	<b>558,2</b>	<b>629,7</b>	<b>656,3</b>	<b>518,1</b>	<b>6.597,4</b>
BiH → HR (HEP-OPS)	396,2	307,8	353,7	346,6	301,8	411,2	397,0	403,6	375,8	358,1	345,2	431,0	4.428,1
BiH → SR (EMS)	252,8	185,2	229,8	103,3	212,2	130,9	132,1	70,5	129,2	172,4	258,1	233,4	2.109,9
BiH → CG (EPCG)	114,1	108,0	149,0	120,7	126,5	118,9	208,9	271,2	191,8	92,1	218,4	178,5	1.898,1
<b>(2) Export BiH</b>	<b>763,1</b>	<b>600,9</b>	<b>732,4</b>	<b>570,7</b>	<b>640,5</b>	<b>661,0</b>	<b>738,0</b>	<b>745,3</b>	<b>696,8</b>	<b>622,7</b>	<b>821,7</b>	<b>843,0</b>	<b>8.436,1</b>
<b>(3) Balance BiH (2) - (1)</b>	<b>90,7</b>	<b>210,8</b>	<b>324,6</b>	<b>74,0</b>	<b>-16,2</b>	<b>191,7</b>	<b>179,0</b>	<b>162,2</b>	<b>138,7</b>	<b>-7,1</b>	<b>165,4</b>	<b>324,9</b>	<b>1.838,7</b>
Balance HR (HEP-OPS)	-41,5	102,1	155,5	56,1	-59,2	266,1	132,0	96,9	63,5	19,9	-58,7	106,3	838,8
Balance SR (EMS)	57,9	43,8	44,4	-69,9	-69,2	-151,4	-135,2	-174,2	-108,9	-81,6	22,8	94,9	-526,7
Balance CG (EPCG)	74,3	64,9	124,8	87,9	112,3	76,9	182,2	239,6	184,1	54,7	201,3	123,7	1.526,6
Transit	357,0	206,2	254,1	256,9	403,4	242,4	281,8	288,8	195,9	205,7	325,8	256,8	3.274,9
Domestic trade													

## PHYSICAL EXCHANGE WITH NEIGHBOURING POWER SYSTEMS

PHYSICAL FLOWS	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	2017
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
BiH → HR (HEP-OPS)	203,0	77,4	89,5	151,7	183,3	70,5	127,8	148,5	160,6	133,9	133,6	150,2	1.629,9
BiH < SR (EMS)	100,9	86,0	59,7	76,1	125,8	139,1	169,1	165,5	148,5	168,9	96,8	68,2	1.404,7
BiH < CG (EPCG)	16,4	48,6	26,5	18,8	14,7	63,1	18,4	14,3	4,9	41,3	13,1	31,0	311,1
<b>(1) Import BiH</b>	<b>320,3</b>	<b>211,9</b>	<b>175,7</b>	<b>246,5</b>	<b>323,9</b>	<b>272,8</b>	<b>315,3</b>	<b>328,3</b>	<b>314,0</b>	<b>344,0</b>	<b>243,5</b>	<b>249,4</b>	<b>3.345,7</b>
BiH → HR (HEP-OPS)	190,8	298,9	319,5	170,8	154,8	384,3	298,4	254,4	174,9	227,9	172,6	262,1	2.909,2
BiH → SR (EMS)	38,3	29,5	59,7	42,9	29,3	19,9	26,0	28,2	41,7	16,8	37,4	78,9	448,7
BiH → CG (EPCG)	182,6	95,4	122,4	105,0	125,0	59,4	171,8	206,1	236,6	91,8	198,6	234,4	1.829,0
<b>(2) Export BiH</b>	<b>411,7</b>	<b>423,8</b>	<b>501,6</b>	<b>318,7</b>	<b>309,0</b>	<b>463,6</b>	<b>496,3</b>	<b>488,7</b>	<b>453,2</b>	<b>336,4</b>	<b>408,6</b>	<b>575,3</b>	<b>5.187,0</b>
<b>(3) Balance BiH (2) - (1)</b>	<b>91,4</b>	<b>211,9</b>	<b>325,9</b>	<b>72,2</b>	<b>-14,8</b>	<b>190,8</b>	<b>180,9</b>	<b>160,4</b>	<b>139,1</b>	<b>-7,6</b>	<b>165,1</b>	<b>325,9</b>	<b>1.841,2</b>
Balance HR (HEP-OPS)	-12,2	221,5	230,0	19,1	-28,6	313,7	170,6	105,8	14,3	94,0	39,0	111,9	1.279,3
Balance SR (EMS)	-62,6	-56,4	0,0	-33,2	-96,6	-119,3	-143,0	-137,3	-106,9	-152,1	-59,4	10,7	-956,0
Balance CG (EPCG)	166,2	46,8	95,9	86,3	110,3	-3,7	153,4	191,8	231,7	50,5	185,5	203,4	1.518,0

## Deviation of BiH power system in 2017

Month	Deviation - Power deficit			Deviation - Power surplus			Deviation - TOTAL		
	Max. hourly	Average	Total	Max. hourly	Average	Total	Max. hourly	Average	Total
	MWh/h	MWh/h	MWh	MWh/h	MWh/h	MWh	MWh/h	MWh/h	MWh
January	-70	-9	-3.471	81	9	3.448	81	0	-23
February	-136	-9	-3.230	45	9	2.641	-136	-1	-589
March	-64	-8	-2.196	41	8	3.977	-64	2	1.780
April	-57	-8	-2.813	98	10	3.738	98	1	925
May	-43	-7	-1.615	70	11	5.797	70	6	4.181
June	-68	-7	-2.021	57	10	4.385	-68	3	2.364
July	-70	-9	-1.497	66	13	7.321	-70	8	5.824
August	-33	-6	-1.648	71	10	4.448	71	4	2.800
September	-60	-10	-2.818	73	10	4.441	73	2	1.623
October	-179	-15	-4.264	157	13	6.210	-179	3	1.946
November	-54	-10	-3.271	60	13	4.980	60	2	1.709
December	-108	-9	-2.363	54	10	4.755	-108	3	2.392
<b>2017</b>	<b>-179</b>	<b>-9</b>	<b>-31.198</b>	<b>157</b>	<b>11</b>	<b>56.108</b>	<b>-179</b>	<b>3</b>	<b>24.933</b>