

SECURITY OF SUPPLY COORDINATION GROUP

5TH MEETING OF SUB-GROUP FOR ELECTRICITY

**Energy Community Secretariat , Am Hof 4, Level 6, 1010 Vienna,
19th December 2018**

WINTER OUTLOOK REPORT 2018/2019 -EMS JSC

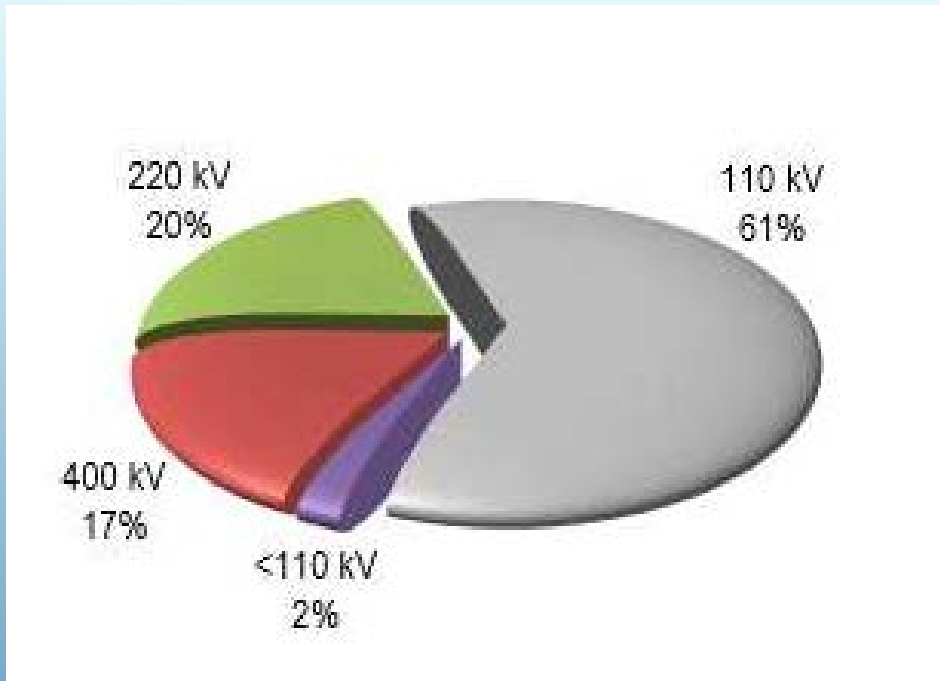


Branko Šumonja, Manager of System Operations Division

DATA OF TRANSMISSION SYSTEM

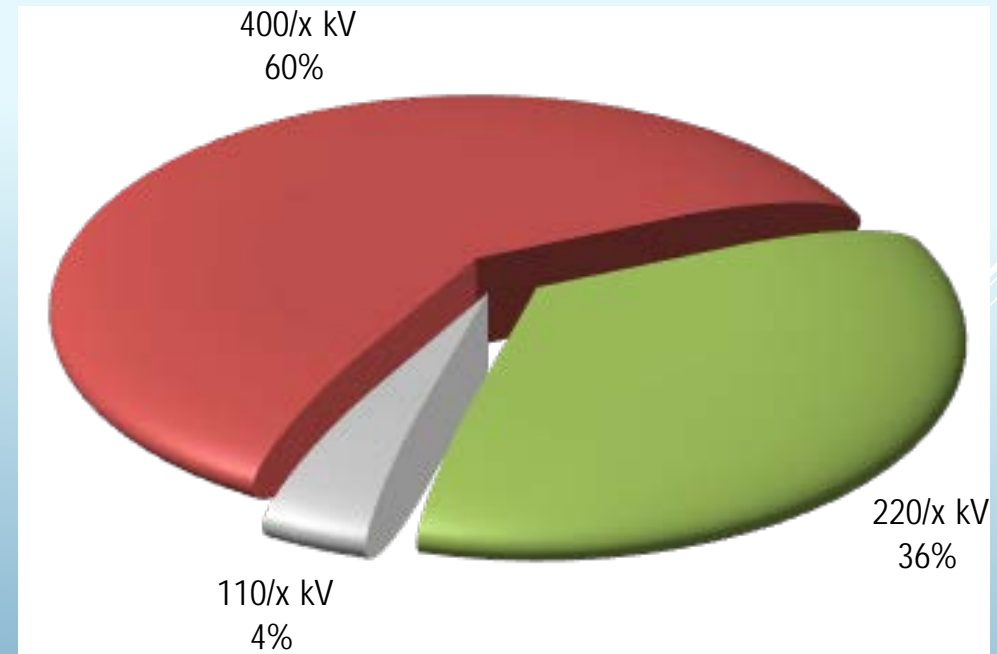
OHL

- 509 lines- 400kV, 220kV,110kV
- 10.728 km total length



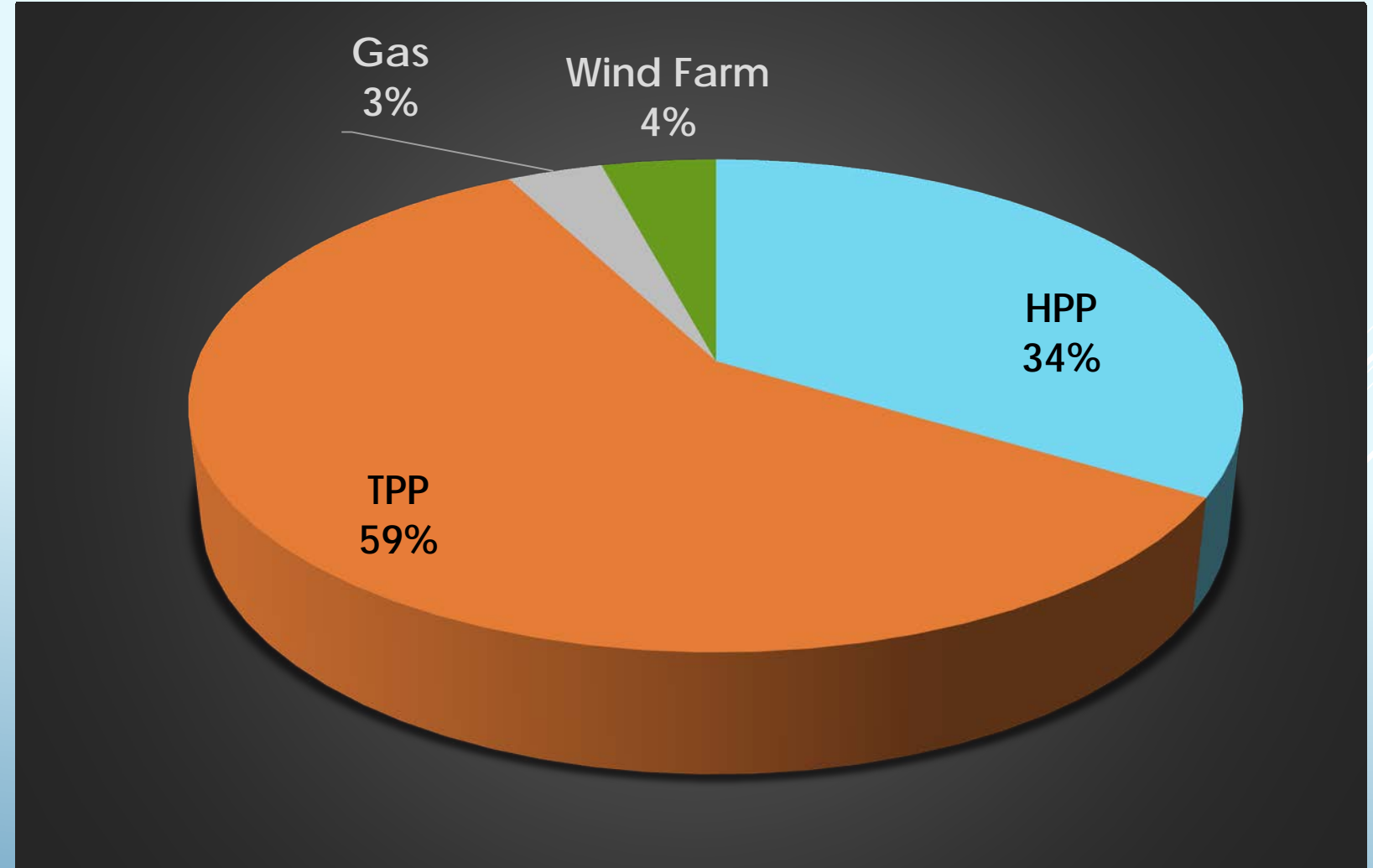
SUBSTATION

- 45 high voltage substations
- 85 transformers – total capacity 17.289,5 MVA



INSTALLED GENERATION CAPACITY

HPP	3008 MW
TPP	5238 MW
Gas	311 MW
Sum	8557 MW
Wind Farm	373 MW
Total	8930 MW



WIND PRODUCTION IN SERBIA

- First Wind Power Plants “Cibuk” and „Alibunar“ have been put in operation of Transmission System on October/November, 2018

WIND POWER	2018	2019			
	Q4	Q1	Q2	Q3	Q4
CIBUK	57 units 158MW				
ALIBUNAR	21 units 42MW				
KOVACICA		38 units 104.5MW			
KOSAVA		20 units 69MW			



SITUATION OF TRANSMISSION NETWORK

- ❑ **The Maintenance of transmission network for 2018 is completed**
- ❑ **The "Maintenance group in the SEE region" has agreed a Maintenance plan for interconnection lines for 2019**
- ❑ **There is no disconnection OHL in the region by March next year**
- ❑ **EMS has provided reserve units for power transformers which are in operation also EMS has emergency towers for crisis situations, which are an important factors for the supply of electricity to customers.**

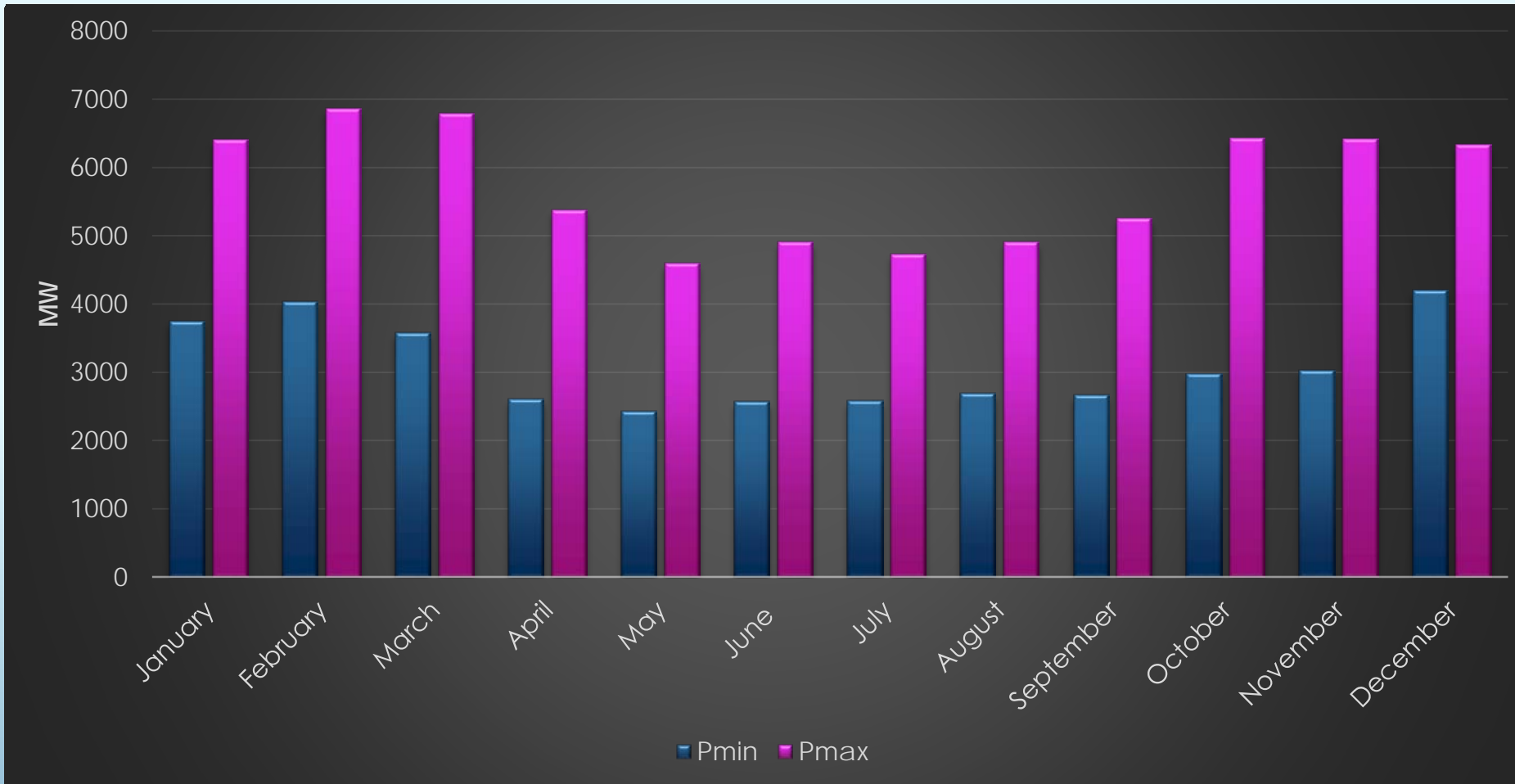


SITUATION OF PRODUCTION

- ❑ The Maintenance of power units is completed before the significant increase of demand.
- ❑ The reconstruction of two generators in HPP (Djerdap 1 and Zvornik) is in progress, but the missing power of 200 MW does not affect the adequacy.
- ❑ In the Serbian system, we have increased production of the order 200MW by connecting the first wind farms to Transmission system
- ❑ At the beginning of 2019 (January or February) we expect an additional increase of 173MW.
- ❑ We are expected exports under normal weather conditions during February and March



Daily peak loads (max and min) in 2018



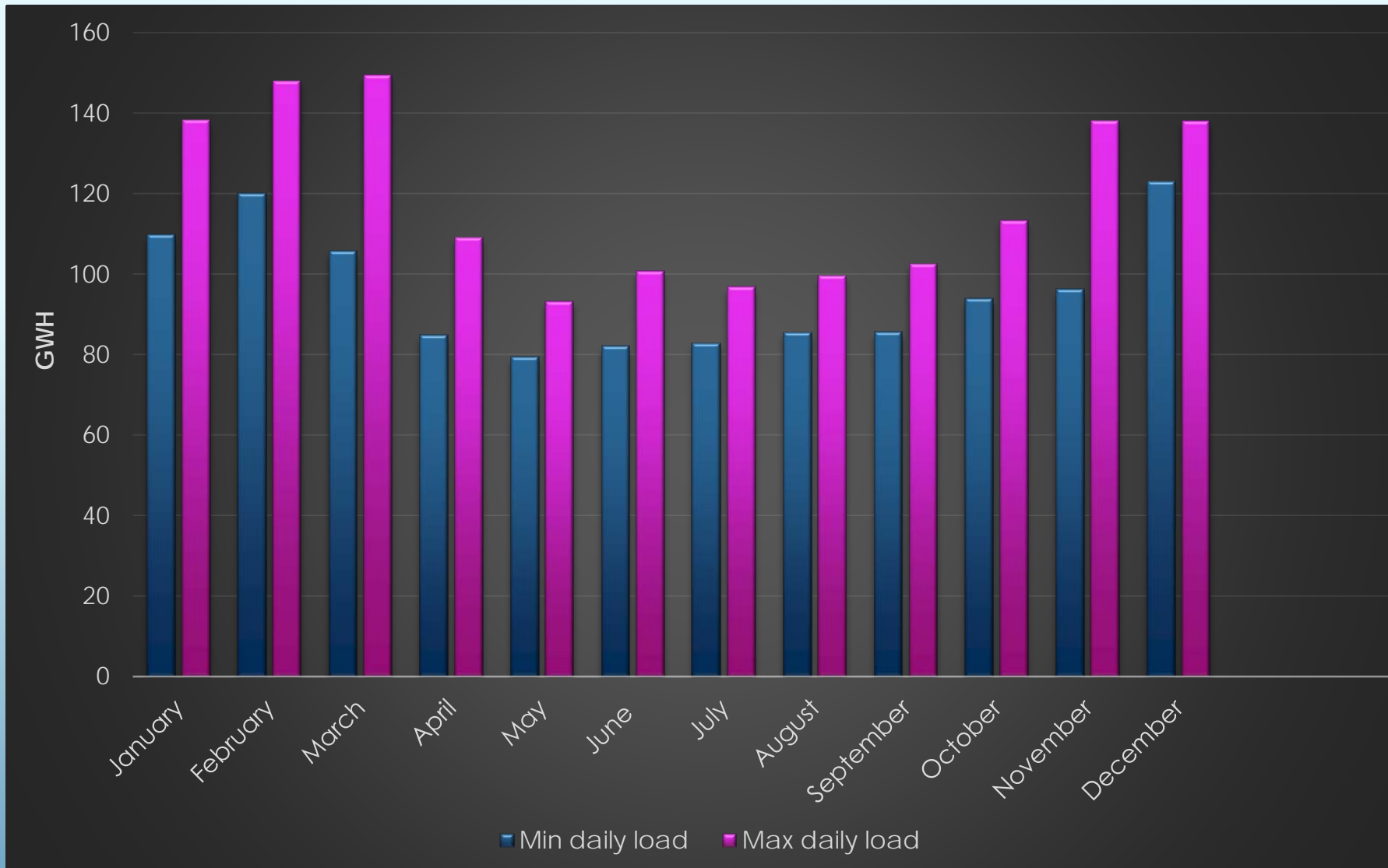
**-Max peak loads:
28.02.2018. 6.867 MW**

**-Min peak loads:
02.05.2018. 2.428 MW**

**-Max peak load ever:
31.12.2010. 7.656 MW**

	January	February	March	April	May	June	July	August	September	October	November	December
Pmin	3755	4042	3581	2616	2428	2570	2588	2692	2672	2979	3026	4208
Pmax	6412	6867	6794	5387	4597	4910	4736	4913	5262	6429	6427	6340

Daily max and min energy consumption in 2018



**-Max daily load:
01.03.2018. 149.421 MWh**

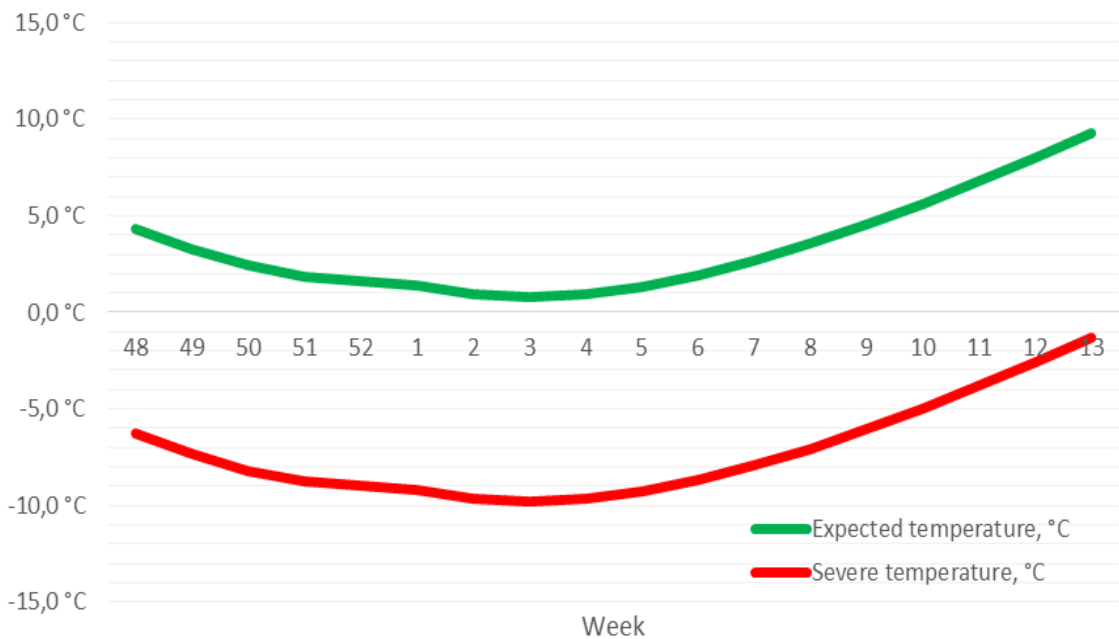
**-Min daily load:
01.05.2018. 79.409 MWh**

**-Daily load max ever:
08.02.2012. 162.671 MWh
(cold winter)**

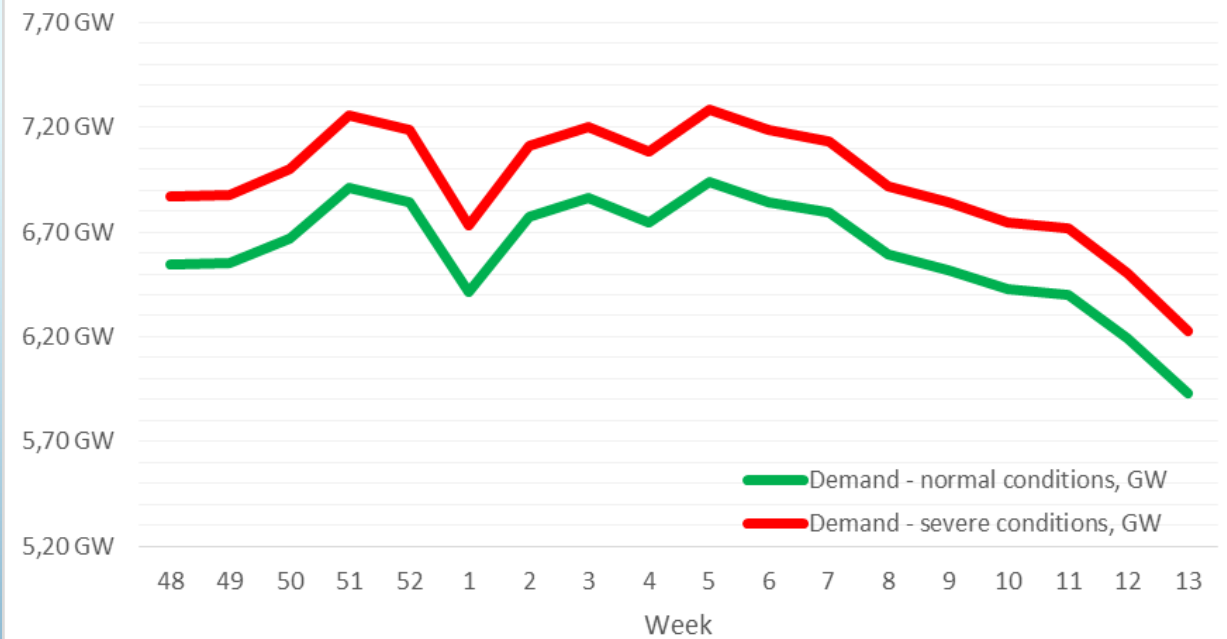
WINTER OUTLOOK 2018-19 DEMAND

Date	28.nov.18	5.dec.18	12.dec.18	19.dec.18	26.dec.18	2.jan.19	9.jan.19	16.jan.19	23.jan.19	30.jan.19	6.feb.19	13.feb.19	20.feb.19	27.feb.19	6.mar.19	13.mar.19	20.mar.19	27.mar.19
Week	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13
Expected temperature, °C	4,3	3,3	2,4	1,8	1,6	1,4	1,0	0,8	1,0	1,3	1,9	2,6	3,5	4,5	5,6	6,8	8,0	9,3
Severe temperature, °C	-6,3	-7,3	-8,2	-8,8	-9,0	-9,2	-9,6	-9,8	-9,6	-9,3	-8,7	-8,0	-7,1	-6,1	-5,0	-3,8	-2,6	-1,3
Demand - normal conditions, GW	6,546	6,551	6,669	6,910	6,845	6,414	6,770	6,860	6,746	6,939	6,845	6,791	6,591	6,514	6,426	6,400	6,194	5,931
Demand - severe conditions, GW	6,873	6,879	7,002	7,256	7,187	6,735	7,109	7,203	7,083	7,286	7,187	7,131	6,921	6,840	6,747	6,720	6,504	6,228

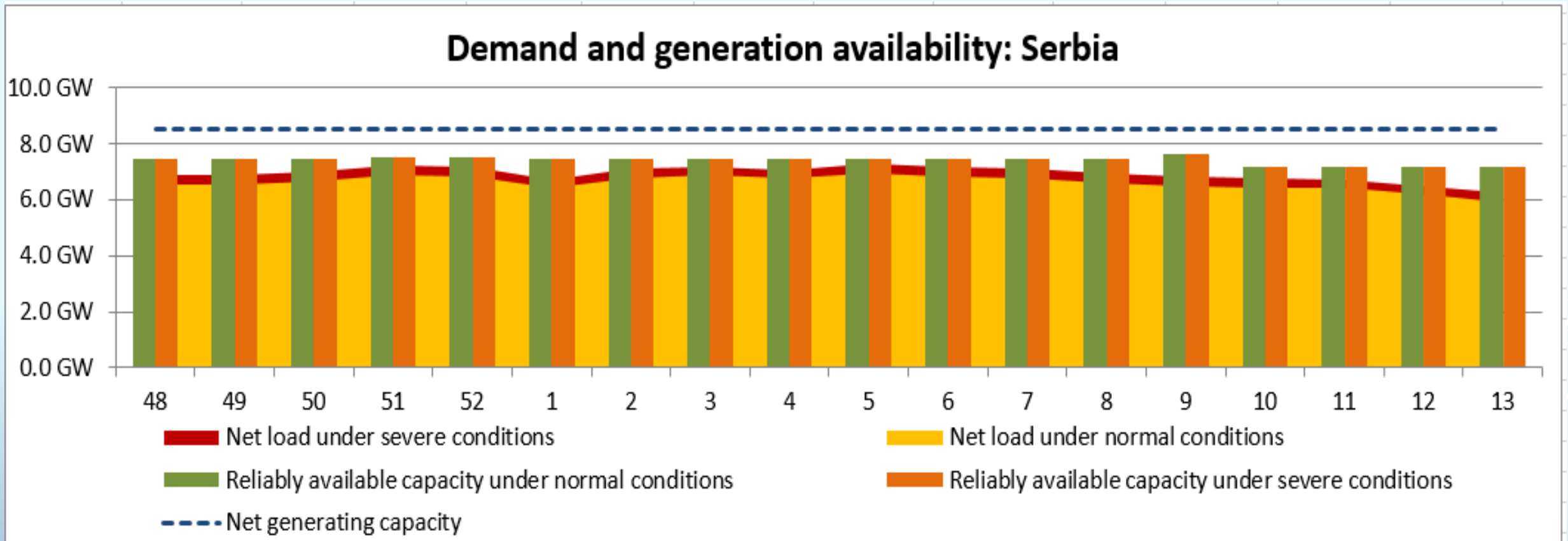
Temperature graph: Serbia



Demand graph: Serbia

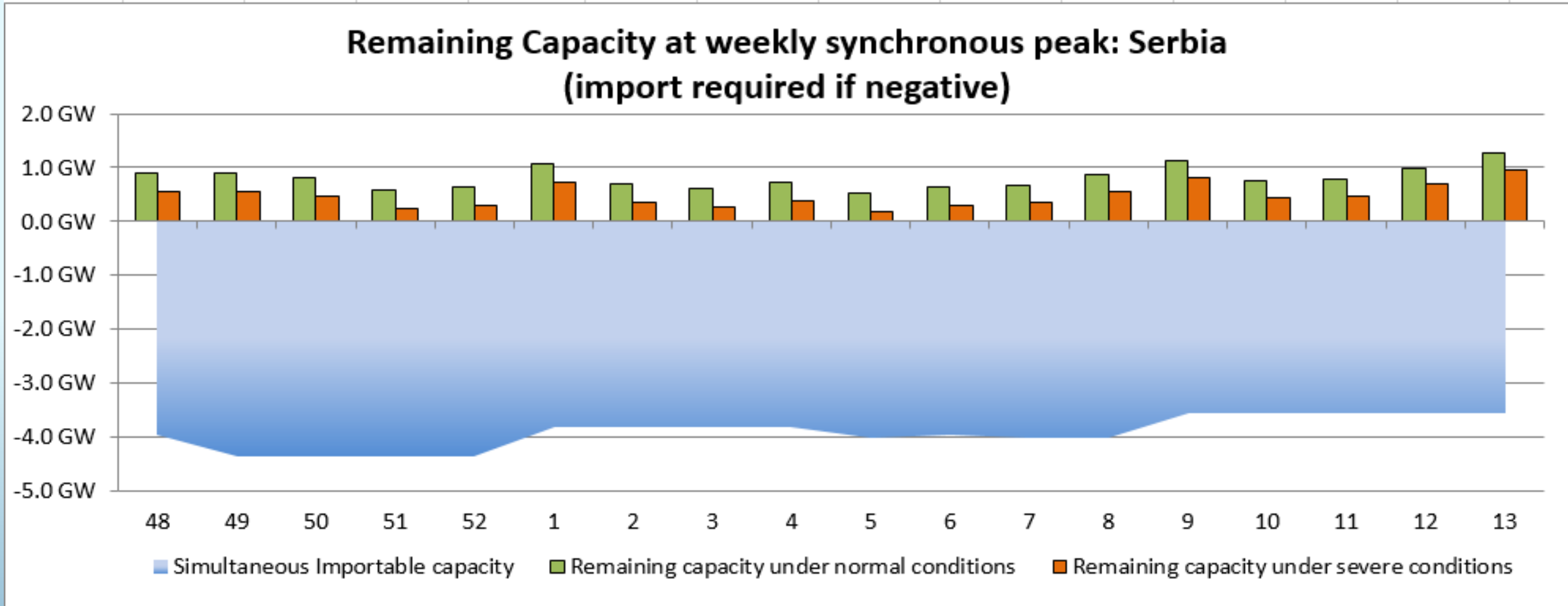


SYSTEM BALANCE – WINTER 2018-19



GW	19th dec 2018	16th jan 2019	20th feb 2019	20th mar 2019
Reliably available capacity	7.496	7.472	7.472	7.190
Net load under normal conditions	6.910	6.860	6.591	6.194
Net load under severe conditions	7.256	7.203	6.921	6.504

SYSTEM BALANCE – WINTER 2018-19



GW	19th dec 2018	16th jan 2019	20th feb 2019	20th mar 2019
Remaining capacity under normal conditions	0.586	0.612	0.881	0.996
Remaining capacity under severe conditions	0.240	0.269	0.551	0.686

TRANSMISSION CAPACITY-JANUARY 2019

January 2019 NTC export/import



□ Available transmission capacity- in case that adequacy is not satisfied

ELECTRICITY MARKET

- ❑ **Electricity market is stable.**
- ❑ **Amount of Intraday capacity is currently enough to cover all requests for electricity exchange.**
- ❑ **EMS have developed procedures for exchange of cross-border balancing energy with 6 TSOs from region in case of lack of energy in Serbian system.**

CONCLUSION

- ❑ **In case of shortage of gas, it is estimated that it may increase consumption up to 300 MW and further increase over this margin in winter peak is not possible due to constraints in distribution system (experience from the gas crisis in 2009)**
- ❑ **Problems to cover demand might occur at extremely high peak loads under severe weather conditions, especially in January, and then energy imports will be required.**

GENERAL CONCLUSION

- ❑ **For the upcoming winter, we do not expect problems in Serbian system**
- ❑ **In general Adequacy will be fulfilled during winter 2018-2019**

14:52:15

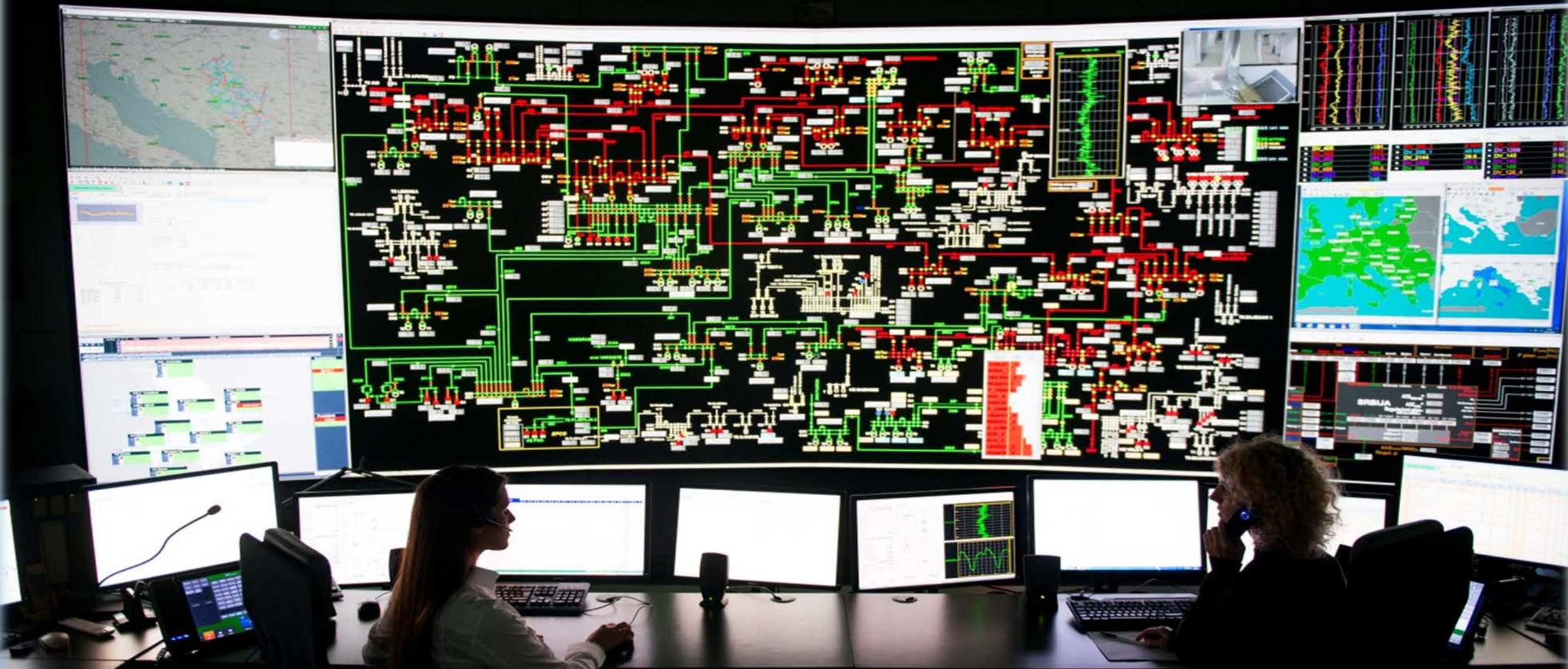
-10826

14:52:04

49982

-0018

4645



Thank You for your attention!