

Statistical Factsheet 2020

Provisional values as of November 2024

The Statistical Factsheet is based upon data reported to the ENTSO-E Central Transparency Platform, with the exception of grid statistics. Readers are reminded that the content of the Transparency Platform predominantly consists of operational data, which in some instances may be less suitable for statistical purposes.



ENTSO-E in figures – Electricity system data of member TSOs in 2020

Area/ Country	Aggregated generation																				Consumption			Area/ Country			
	Non renewable net generation	Nuclear	Fossil fuels	Fossil Brown coal/Lignite	Fossil Coal-derived gas	Fossil Gas	Fossil Hard coal	Fossil Oil	Fossil Oil shale	Fossil Peat	Hydro Pumped Storage	Waste	Other non-renewable	Renewable Net Generation	Wind Offshore	Wind Onshore	Solar	Biomass	Geothermal	Hydro Run-of-river and poundage	Hydro Water Reservoir	Other renewable	Total net generation		Consumption of Hydro Pumped Storage	Net Consumption	
	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh	
AT ¹	16.3		9.4			9.1	0.3				5.8	0.9	0.2	43.4		7.2	0.8	1.7	0.0	28.6	5.1		59.7	2.6	61.1	AT ¹	
BA	10.5		10.5	2.0			8.5							4.3		0.1					4.2		14.8		11.3	BA	
BE	65.1	32.8	23.8			23.8		0.0			1.0	2.1	5.4	17.7	6.9	4.1	4.3	2.4		0.1			82.8	1.4	81.1	BE	
BG ²	34.1	16.5	17.1	14.4		2.2	0.5				0.4	0.0		6.0		1.4	1.4	0.3		1.1	1.8		40.1		36.5	BG ²	
CH	30.3	23.4									6.9			16.4		0.1	2.4			2.1	11.9		46.7		62.4	CH	
CY	3.7		3.7					3.7						0.2		0.2							3.9		3.6	CY	
CZ	66.5	28.4	35.8	26.4	2.1	5.4	1.7	0.1			1.3	0.2	0.9	9.7		0.7	2.2	2.3		1.1	1.0	2.4	76.1	1.7	64.3	CZ	
DE	270.4	60.9	189.6	83.4		67.6	34.9	3.7			10.8	5.9	3.1	234.2	26.9	103.1	45.8	40.8	0.2	14.4	1.6	1.4	504.5	12.6	485.4	DE	
DK	7.2		5.9			1.8	3.9	0.2				1.3		20.7	6.3	10.1	1.2	3.0					27.9		34.1	DK	
EE	2.8		2.7		0.4	0.0			2.2	0.0	0.1			1.6		0.9	0.1	0.6		0.0	0.0		4.5		8.0	EE	
ES	127.1	55.8	68.5			61.6	5.1	1.8				2.3	0.4	111.6		53.2	20.0	3.8		10.1	23.6	0.9	238.7	4.8	237.9	ES	
FI	33.1	22.3	9.9			4.2	3.0	0.0		2.8		0.1	0.6	27.8		7.2		6.0		14.4		0.2	60.9		78.4	FI	
FR	378.5	334.2	37.5			34.5	1.4	1.6			5.0	1.7		112.7		38.4	12.4	2.9		41.4	17.6		491.1	5.2	444.5	FR	
GB ³	149.5	47.3	99.3			94.8	4.5	0.0			1.6		1.3	89.6	27.3	28.8	11.2	17.9		4.3			239.1		285.4	GB ³	
GR	24.8		24.8	5.8		18.9								11.4		7.5	4.0						36.2		48.9	GR	
HR	4.5		4.1			2.9	1.1	0.0			0.4	0.0		7.6		1.7	0.1	0.5	0.1	1.7	3.1	0.4	12.1	0.2	16.9	HR	
HU	27.6	15.1	11.8	3.7		8.0	0.1	0.0				0.1	0.5	3.6		0.6	1.6	1.0	0.0	0.1	0.1	0.1	31.1		42.9	HU	
IE	12.8		12.5			8.3	0.8	2.3		1.2	0.3		0.0	11.8		10.9				0.8			24.6	0.5	29.0	IE	
IT	150.7		128.7		6.3	109.1	12.3	0.9			3.6	0.3	18.2	94.1		18.6	20.4	5.7	5.7	37.3	6.5		244.8	2.3	273.2	IT	
LT	2.6		1.5			1.5					0.8	0.1	0.1	2.2		1.5	0.1	0.4		0.3			4.8		11.8	LT	
LU ⁴	0.3		0.2			0.2						0.1		0.8		0.3	0.2	0.3		0.1	0.0		1.2		4.9	LU ⁴	
LV	2.3		1.7			1.7							0.6	3.2		0.1		0.5		2.5			5.5		7.1	LV	
MD	5.0		5.0			5.0								0.3		0.0		0.0		0.3			5.3		5.5	MD	
ME	1.5		1.5	1.5										1.6		0.3					1.3		3.1		3.2	ME	
MK	3.6		3.6	2.5		1.0								1.0		0.1				0.0	0.9		4.6		6.9	MK	
NL	102.3	3.9	64.4			52.3	12.1				3.2	30.8		10.3	4.8	5.1	0.2	0.1					112.6		108.1	NL	
NO	5.0		2.0			2.0					2.6	0.1	0.3	147.6		9.3				11.3	126.9	0.1	152.6		132.9	NO	
PL ⁵	120.5		119.4	34.6	0.3	12.5	70.5	1.6			1.1			20.7		15.2	1.8	2.1		1.5	0.1		141.1		165.3	PL ⁵	
PT ⁶	22.4		18.8			16.6	2.2				3.3		0.2	27.1	0.0	12.0	1.3	3.3		7.5	3.0		49.5	2.0	48.8	PT ⁶	
RO	31.3	11.5	19.8	8.8		10.2	0.8							24.1		6.9	1.3	0.5		9.7	5.8		55.4		58.1	RO	
RS	25.4		24.4	24.4		0.0					0.7		0.3	9.2				0.2		8.4	0.6		34.7		39.0	RS	
SE	54.3	47.5											6.8	100.0		26.9					73.1		154.3		132.9	SE	
SI	10.7	6.0	4.3	3.9		0.4					0.3	0.1		5.2		0.0	0.3	0.1		4.8			15.9		13.4	SI	
SK	21.7	15.4	4.9	1.0		3.3	0.1	0.4			0.2		1.2	6.4		0.0	0.5	0.9		4.1	0.4	0.5	28.1	0.4	28.0	SK	
UA																										140.7	UA
ENTSO-E [*]	1 807.8	721.0	957.6	212.4	9.2	549.9	163.5	16.5	2.2	4.0	40.4	17.9	70.9	1 140.9	72.2	365.5	132.8	95.6	5.9	179.3	283.5	6.1	2 948.6	31.2	3 150.5	ENTSO-E [*]	
%	61.31	24.45	32.47	7.20	0.31	18.65	5.54	0.56	0.07	0.13	1.37	0.61	2.40	38.69	2.45	12.40	4.50	3.24	0.20	6.08	9.61	0.21	100.00			%	
EU ^{**}	1 593.3	650.3	820.7	182.0	9.2	456.1	150.8	16.5	2.2	4.0	34.5	18.6	69.1	914.1	44.9	333.9	120.0	79.2	5.9	181.5	142.8	5.9	2 507.4	33.8	2 524.2	EU ^{**}	
%	63.5	25.9	32.7	7.3	0.4	18.2	6.0	0.7	0.1	0.2	1.4	0.7	2.8	36.5	1.8	13.3	4.8	3.2	0.2	7.2	5.7	0.2	100.0			%	

Net Generation Capacity⁷

Area / Country	Non renewable net generation	Nuclear	Fossil fuels	Fossil Brown coal/Lignite	Fossil Coal-derived gas	Fossil Gas	Fossil Hard coal	Fossil Oil	Fossil Oil shale	Fossil Peat	Hydro Pumped Storage	Waste	Other non-renewable	Renewable Net Generation	Wind Offshore	Wind Onshore	Solar	Biomass	Geothermal	Hydro Run-of-river and poundage	Hydro Water Reservoir	Marine	Other renewable	Total NGC	Area / Country
	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	
AL														1 492				0		0	1 492			1 492	AL
AT*	7 732	0	4 439	0	0	4 015	246	178	0	0	3 120	150	23	13 223	0	3 133	1 333	497	0	5 724	2 436	0	100	20 955	AT*
BA	2 315		1 875	988			887				440			1 877		87				1 083	707			4 192	BA
BE	14 677	5 943	7 045			6 799		246			1 308	362	19	9 380	2 254	2 416	3 887	647		175				24 057	BE
BG*	8 577	2 000	5 707	4 119		1 232	356				864	6		4 205		700	1 084	74		537	1 810			12 782	BG*
CH	9 642	2 970									6 672			6 050						635	5 415			15 691	CH
CY	1 478		1 478					1 478						375		158	205	12						1 853	CY
CZ	16 268	4 040	10 956	8 150	380	1 226	1 200	0			1 172	100	0	4 308		339	2 061	410		334	754		410	20 576	CZ
DE	100 364	8 114	79 610	21 067	0	31 712	22 458	4 373			9 422	1 661	1 558	122 603	7 504	53 184	48 206	7 987	47	3 970	1 298		407	222 967	DE
DK	6 788		6 404			1 739	3 656	1 009				384		9 131	1 700	4 402	1 013	1 872		7			137	15 919	DK
EE	2 209	0	2 190	0	79	133	0	8	1 970	0	0	19	0	628	0	329	123	157	0	8	0	0	12	2 837	EE
ES	53 356	7 117	39 933	0	0	30 012	9 214	707	0	0	5 645	543	117	54 036	0	24 447	8 466	555	0	1 155	19 139	0	275	107 392	ES
FI	9 840	2 794	6 447			1 849	2 163	1 300		1 135		163	436	7 434		2 145	7	1 860		3 148			274	17 274	FI
FR	86 648	63 130	16 924			12 238	1 812	2 874			5 064	460	1 070	48 114	14	16 578	9 438	1 578		11 475	8 785	246		134 762	FR
GB	63 768	8 209	47 433			39 823	7 294	316			4 052		4 074	45 932	10 365	13 830	13 368	4 237		1 882		2 249		109 700	GB
GE	925		925			912	13							3 459		20				1 058	2 381			4 384	GE
GR	8 963		8 264	3 362		4 902		0			699			8 652		3 153	2 606	86	0	299	2 403		105	17 615	GR
HR	2 299		2 012			743	332	937			281	6		2 808		739	53	91	10	421	1 444		50	5 107	HR
HU	7 457	1 899	5 499	1 007		4 030	42	420				59		2 105		323	1 407	241	3	30	28		74	9 562	HU
IE	7 675		6 736			4 265	855	1 272		344	292		647	2 152		1 919			17	216				9 826	IE
IT	62 192		53 397	0	1 764	42 523	7 617	1 493			7 276	125	1 394	32 416	0	10 224	4 874	1 549	869	10 441	4 459	0	0	94 608	IT
LT	2 836		1 770			1 770		0			900	22	144	863		534	103	98		128			0	3 699	LT
LU*	102	0	81	0	0	81	0	0	0	0	0	21	0	407	0	154	170	47	0	25	11	0	0	509	LU*
LV	1 026		1 026			1 026								1 806		74	9	145		1 578				2 832	LV
ME	210		210	210										767		118				307	342			977	ME
MK	1 240		1 240	824		251		165						541		35				506				1 781	MK
NL	21 434	485	20 158	0	0	15 496	4 662	0	0	0	0	790	1	12 238	957	3 527	7 226	490	0	38	0	0	0	33 672	NL
NO	1 673		642			642					1 031		0	36 646		3 866				6 248	26 533			38 319	NO
PL	34 913		33 133	7 677	272	2 540	22 286	359			1 780			8 748		5 953	1 310	880		448	157			43 661	PL
PT	9 190	0	6 362	0	0	4 606	1 756	0	0	0	2 820	0	8	10 646	0	5 181	413	679	0	2 858	1 515	0	0	19 836	PT
RO	8 069	1 300	6 769	3 071		2 666	1 032							10 392		2 972	1 163	117		2 750	3 390			18 461	RO
RS	6 233		5 569	5 283		286					639		25	2 886		397	4	8		2 005	472			9 119	RS
SE	16 537	7 710											8 827	25 966		9 648					16 318			42 503	SE
SI	2 485	696	1 571	967		546		58			180	38		1 414		3	278	23		1 111				3 900	SI
SK	5 214	1 940	1 718	308		1 152	1	257			916		640	2 502		3	531	224		1 210	418		116	7 716	SK
UA	43 269	13 835	27 947			9 360	18 587				1 488			11 502		1 111	5 363	199		192	4 637			54 771	UA
ENTSO-E*	627 604	132 182	415 469	57 032	2 495	228 575	106 470	17 449	1 970	1 479	56 061	4 910	18 982	507 704	22 794	171 702	114 700	24 763	946	61 495	106 849	246	4 209	1 135 308	ENTSO-E*
%	55.28	11.64	36.60	5.02	0.22	20.13	9.38	1.54	0.17	0.13	4.94	0.43	1.67	44.72	2.01	15.12	10.10	2.18	0.08	5.42	9.41	0.02	0.37	100.00	%
EU**	498 329	107 168	329 629	49 727	2 495	177 301	79 689	16 968	1 970	1 479	41 739	4 910	14 883	396 552	12 429	152 238	95 965	20 318	946	48 086	64 365	246	1 960	894 881	EU**
%	55.69	11.98	36.83	5.56	0.28	19.81	8.90	1.90	0.22	0.17	4.66	0.55	1.66	44.31	1.39	17.01	10.72	2.27	0.11	5.37	7.19	0.03	0.22	100.00	%

¹ All values from Transparency Platform for Austria are for the control area AT and not the country AT (some power plants and lines located in Austria are part of the German control areas TenneT DE and TransnetBW).

² The presented figures for BG are actually gross generation and gross consumption, power plants auxiliary consumption is included. This is due to the fact that data for this report is taken from Transparency Platform.

³ All data with the country code GB represents the available data in ENTSO-E Transparency Platform for England, Northern Ireland, Scotland and Wales.

⁴ All values from Transparency Platform for Luxembourg are for the monitoring area LU and not the country LU (the power plant Vianden and the lines around it located in Luxembourg are part of the German control area Amprion/Creos and some industrial consumers are directly connected to the French and to the Belgian-control areas).

⁵ The presented figures for PL are actual net generation and gross consumption, consumption of Hydro Pump Storage is not included. This is analogous to Transparency Platform, which is the source of the reported data.

⁶ Hydro Pumped Storage includes generation from natural flows and from pumped storage. This leads to a lower renewable generation share since generation from natural flows is not being considered renewable.

⁷ Sum of generation capacity (MW) installed for all existing production units equaling to or exceeding 1 MW installed generation capacity as of 1st of January 2020.

* The given NGC for BG are gross figures

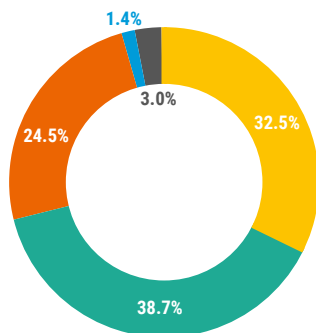
** Calculated sum of the ENTSO-E member TSOs

** The 27 member countries of the EU are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden. Please note that, as it does not have a TSO, Malta is not a member of ENTSO-E and thus the Statistical Factsheet includes data from all EU countries except Malta.

Generation

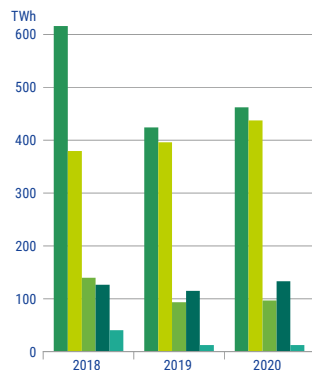
Generation mix in ENTSO-E member TSOs in 2020¹

	TWh
Fossil fuels net generation (lignite and hard coal, gas, oil, mixed fuels, peat)	957.6
Renewable net generation (renewable hydro, wind, solar, biomass, geothermal)	1 140.9
Thermal nuclear net generation	721.0
Hydro net generation (except renewable part)	40.4
Net generation not identified	88.8



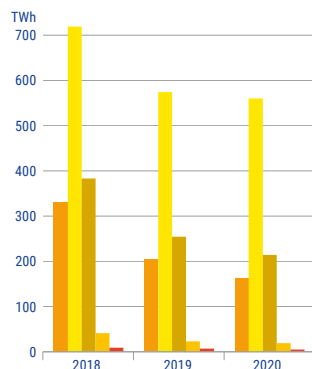
ENTSO-E renewable generation¹

	Year	TWh	%
Renewable net generation	2018	1 300.6	
	2019	1 035.8	
	2020	1 140.9	
of which hydro	2018	615.6	47
	2019	423.3	41
	2020	462.8	41
of which wind	2018	379.7	29
	2019	395.0	38
	2020	437.7	38
of which biomass	2018	139.0	11
	2019	92.2	9
	2020	95.6	8
of which solar	2018	125.9	10
	2019	113.5	11
	2020	132.8	12
of which other renewable	2018	40.4	3
	2019	11.7	1
	2020	12.0	1

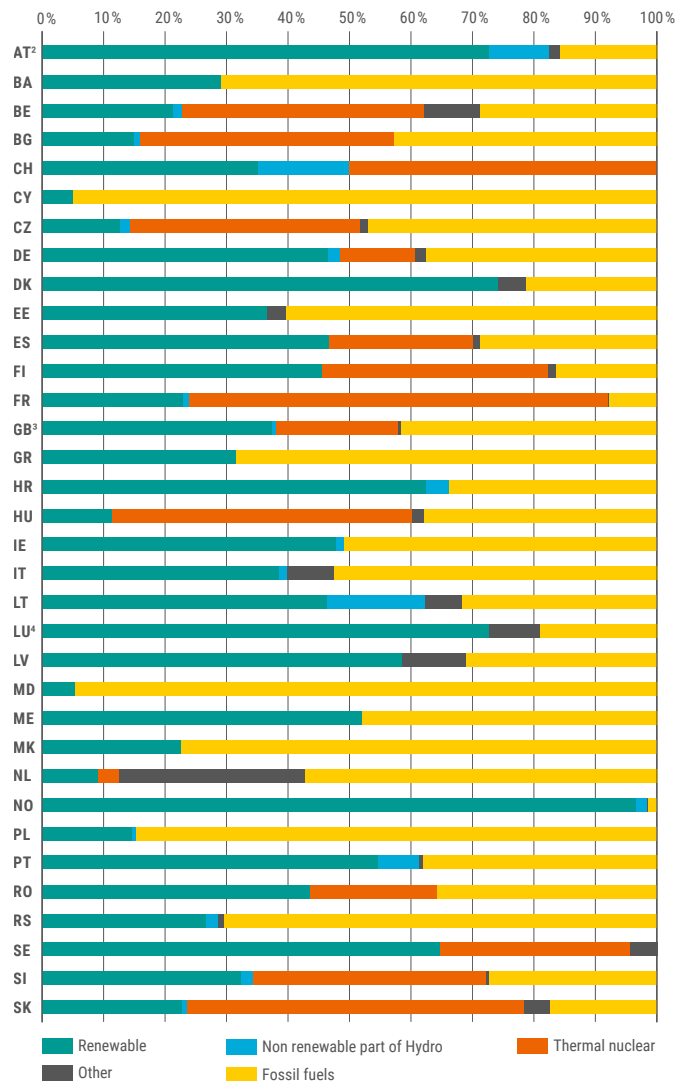


ENTSO-E fossil fuels generation¹

	Year	TWh	%
Fossil fuels net generation	2018	1 479.1	
	2019	1 057.1	
	2020	957.6	
of which hard coal	2018	330.9	22
	2019	203.2	19
	2020	163.5	17
of which gas	2018	718.5	49
	2019	572.9	54
	2020	559.1	58
of which lignite	2018	382.0	26
	2019	253.8	24
	2020	212.4	22
of which oil	2018	39.5	3
	2019	21.3	2
	2020	18.7	2
of which other fuels	2018	8.2	0.6
	2019	5.9	0.6
	2020	4.0	0.4



Share of energy produced of each member TSOs 2019 in %¹



¹ Share of energy produced, based on the aggregated generation for each ENTSO-E TSO.

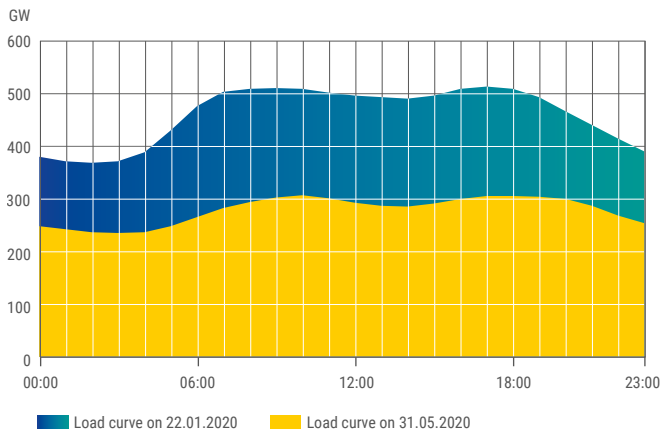
² All values from Transparency Platform for Austria are for the control area AT and not the country AT (some power plants and lines located in Austria are part of the German control areas TenneT DE and TransnetBW).

³ All data with the country code GB represents the available data in ENTSO-E Transparency Platform for England, Northern Ireland, Scotland and Wales.

⁴ All values from Transparency Platform for Luxembourg are for the monitoring area LU and not the country LU (the power plant Vianden and the lines around it located in Luxembourg are part of the German control area Amprion/Creos and some industrial consumers are directly connected to the French and to the Belgian control areas).

ENTSO-E peak load 2020

2020 ENTSO-E load diagram on the days of the highest and lowest load values



Values in MW on the days of highest and lowest ENTSO-E load values^{1,2}

	22.01.2020 18:00 – 19:00	31.05.2020 05:00 – 06:00	22.01.2020 18:00 – 19:00	31.05.2020 05:00 – 06:00	22.01.2020 18:00 – 19:00	31.05.2020 05:00 – 06:00		
AT ³	9 501	4 791	FR	80 823	30 506	MK	1 203	496
BA	1 873	855	GB	46 895	20 714	NL	16 132	8 733
BE	12 474	7 042	GR	8 245	3 979	NO	19 582	10 020
BG ⁴	6 185	3 249	HR	2 724	1 319	PL ⁶	24 492	12 800
CH	9 404	6 418	HU	6 511	3 405	PT	8 340	3 479
CY	746	248	IE	4 768	2 054	RO	8 786	4 815
CZ	10 006	5 068	IT	45 337	19 853	RS	6 481	3 203
DE	71 341	36 735	LT	1 669	1 047	SE	20 510	10 464
DK	4 818	2 943	LU ⁵	767	406	SI	2 136	1 066
EE	1 176	638	LV	996	639	SK	4 221	2 295
ES	38 464	18 251	MD	769	431	UA	20 056	13 183
FI	11 361	6 580	ME	541	279			
						ENTSO-E⁷	509.333	248.004

¹ This is the average of the hour.

² All times are in UTC.

³ All values from Transparency Platform for Austria are for the control area AT and not the country AT (some power plants and lines located in Austria are part of the German control areas TenneT DE and TransnetBW).

⁴ The presented load for BG includes power plant auxiliary consumption in it.

⁵ All values from Transparency Platform for Luxembourg are for the monitoring area LU and not the country LU (the power plant Vianden and the lines around it located in Luxembourg are part of the German control area Amprion/Creos and some industrial consumers are directly connected to the French and to the Belgian control areas)

⁶ Gross value.

⁷ Calculated load values as sum of the ENTSO-E member TSOs.

Highest and lowest hourly load values for 2020 in MW¹

	HIGHEST LOAD		VALUE	LOWEST LOAD		VALUE
	Date	Time ²	(in MW)	Date	Time ²	(in MW)
AT ³	02.12.20	16:00 – 17:00	10 552	14.06.20	02:00 – 03:00	4 021
BA	24.10.20	23:00 – 00:00	3 352	08.01.20	13:00 – 14:00	0
BE	21.01.20	17:00 – 18:00	13 117	13.04.20	03:00 – 04:00	6 245
BG ⁴	21.01.20	16:00 – 17:00	6 566	20.04.20	00:00 – 01:00	2 432
CH	01.12.20	11:00 – 12:00	9 874	09.05.20	04:00 – 05:00	4 704
CY	04.09.20	13:00 – 14:00	918	14.04.20	23:00 – 00:00	123
CZ	03.12.20	12:00 – 13:00	10 681	05.07.20	03:00 – 04:00	4 246
DE	03.12.20	16:00 – 17:00	78 599	01.06.20	01:00 – 02:00	33 047
DK	27.02.20	09:00 – 10:00	9 618	19.07.20	03:00 – 04:00	2 423
EE	10.12.20	14:00 – 15:00	1 409	24.06.20	03:00 – 04:00	495
ES	20.01.20	19:00 – 20:00	40 137	12.04.20	03:00 – 04:00	16 575
FI	28.02.20	06:00 – 07:00	12 388	20.06.20	01:00 – 02:00	5 341
FR	22.01.20	08:00 – 09:00	82 832	10.05.20	04:00 – 05:00	29 398
GB	11.02.20	18:00 – 19:00	52 132	22.07.20	14:00 – 15:00	7 629
GR	31.07.20	11:00 – 12:00	9 510	03.05.20	01:00 – 02:00	3 010
HR	31.07.20	11:00 – 12:00	2 872	13.04.20	02:00 – 03:00	1 067
HU	02.12.20	15:00 – 16:00	6 775	01.06.20	03:00 – 04:00	3 006
IE	07.12.20	17:00 – 18:00	5 307	31.05.20	04:00 – 05:00	2 024
IT	30.07.20	14:00 – 15:00	49 964	13.04.20	02:00 – 03:00	15 334
LT	10.12.20	14:00 – 15:00	1 935	12.07.20	02:00 – 03:00	842
LU ⁵	24.01.20	10:00 – 11:00	814	13.04.20	02:00 – 03:00	372
LV	09.12.20	14:00 – 15:00	1 169	24.06.20	02:00 – 03:00	454
MD	08.12.20	08:00 – 09:00	1 063	03.05.20	01:00 – 02:00	0
ME	06.02.20	17:00 – 18:00	547	18.04.20	22:00 – 23:00	0
MK	03.12.20	14:00 – 15:00	1 401	04.04.20	02:00 – 03:00	54
NL	09.12.20	16:00 – 17:00	17 749	26.04.20	12:00 – 13:00	7 684
NO	28.02.20	07:00 – 08:00	21 861	28.06.20	03:00 – 04:00	9 338
PL ⁶	10.12.20	11:00 – 12:00	26 532	13.04.20	04:00 – 05:00	10 769
PT	13.01.20	19:00 – 20:00	8 850	12.04.20	06:00 – 07:00	3 160
RO	08.12.20	08:00 – 09:00	9 320	20.04.20	03:00 – 04:00	4 087
RS	13.01.20	16:00 – 17:00	6 612	17.05.20	03:00 – 04:00	2 494
SE	04.02.20	07:00 – 08:00	22 513	19.07.20	03:00 – 04:00	8 095
SI	04.03.20	20:00 – 21:00	2 474	02.05.20	02:00 – 03:00	790
SK	22.01.20	15:00 – 16:00	4 702	30.01.20	22:00 – 23:00	0
UA	08.12.20	14:00 – 15:00	23 642	09.12.20	13:00 – 14:00	0

¹ This is the average of the hour.

² All times are in UTC.

³ All values from Transparency Platform for Austria are for the control area AT and not the country AT (some power plants and lines located in Austria are part of the German control areas TenneT DE and TransnetBW).

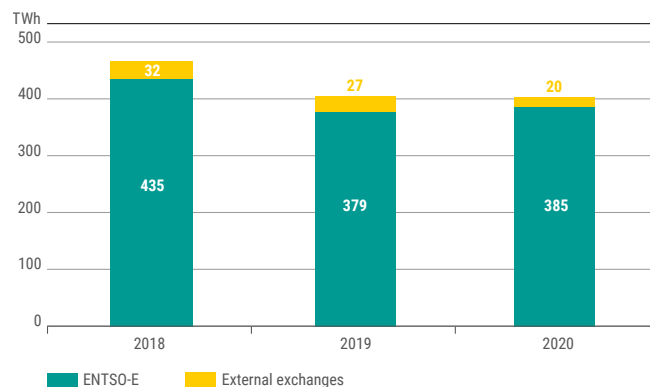
⁴ The presented load for BG includes power plant auxiliary consumption in it.

⁵ All values from Transparency Platform for Luxembourg are for the monitoring area LU and not the country LU (the power plant Vianden and the lines around it located in Luxembourg are part of the German control area Amprion/Creos and some industrial consumers are directly connected to the French and to the Belgian control areas).

⁶ Gross value.

Development of exchanges

Development of overall cross-border exchanges of ENTSO-E member TSOs



Overview electricity exchanges for the past 3 years in GWh

	All Exchanges	ENTSO-E	External ¹
2018	467 102	434 893	32 209
2019	405 867	378 747	27 120
2020	404 423	384 730	19 693

¹ External exchanges include Andorra, Armenia, Azerbaijan, Belarus, Georgia, Iraq, Iran, Moldova, Morocco, Russia, Syria and Ukraine

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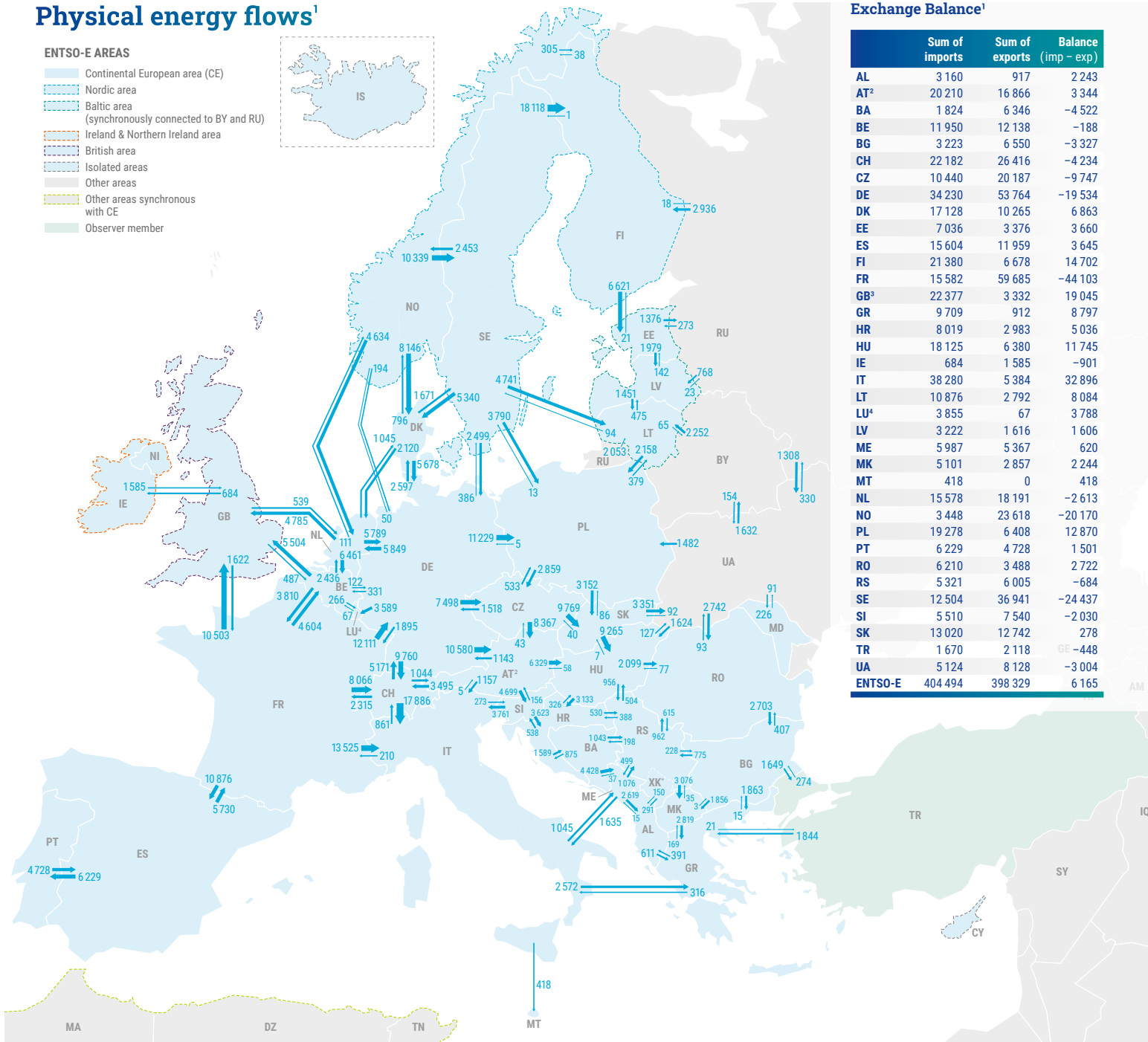
Images: iStockphoto.com

Publishing date: November 2024

Physical energy flows¹

ENTSO-E AREAS

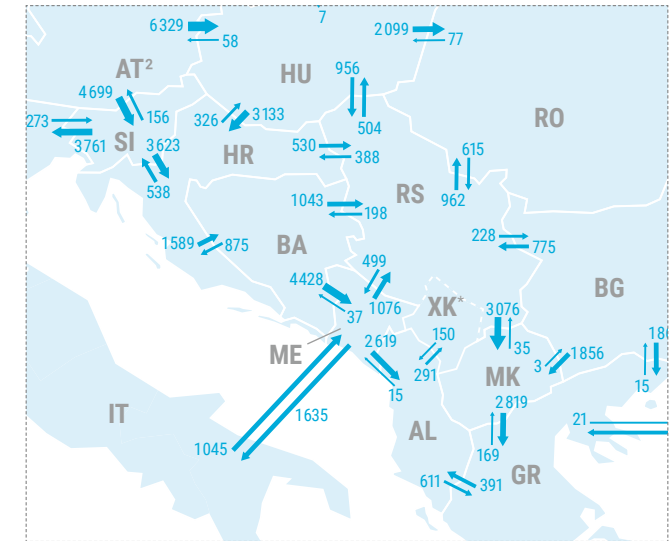
- Continental European area (CE)
- Nordic area
- Baltic area
(synchronously connected to BY and RU)
- Ireland & Northern Ireland area
- British area
- Isolated areas
- Other areas
- Other areas synchronous with CE
- Observer member



Exchange Balance¹

	Sum of imports	Sum of exports	Balance (imp - exp)
AL	3 160	917	2 243
AT ²	20 210	16 866	3 344
BA	1 824	6 346	-4 522
BE	11 950	12 138	-188
BG	3 223	6 550	-3 327
CH	22 182	26 416	-4 234
CZ	10 440	20 187	-9 747
DE	34 230	53 764	-19 534
DK	17 128	10 265	6 863
EE	7 036	3 376	3 660
ES	15 604	11 959	3 645
FI	21 380	6 678	14 702
FR	15 582	59 685	-44 103
GB ³	22 377	3 332	19 045
GR	9 709	912	8 797
HR	8 019	2 983	5 036
HU	18 125	6 380	11 745
IE	684	1 585	-901
IT	38 280	5 384	32 896
LT	10 876	2 792	8 084
LU ⁴	3 855	67	3 788
LV	3 222	1 616	1 606
ME	5 987	5 367	620
MK	5 101	2 857	2 244
MT	418	0	418
NL	15 578	18 191	-2 613
NO	3 448	23 618	-20 170
PL	19 278	6 408	12 870
PT	6 229	4 728	1 501
RO	6 210	3 488	2 722
RS	5 321	6 005	-684
SE	12 504	36 941	-24 437
SI	5 510	7 540	-2 030
SK	13 020	12 742	278
TR	1 670	2 118	-448
UA	5 124	8 128	-3 004
ENTSO-E	404 494	398 329	6 165

Map section of the Balkans



¹ Hourly netted physical flow values measured in GWh.
² All values from Transparency Platform for Austria are for the control area AT and not the country AT (some power plants and lines located in Austria are part of the German control areas TenneT DE and TransnetBW).
³ All data with the country code GB represents the available data in ENTSO-E Transparency Platform for England, Northern Ireland, Scotland and Wales.
⁴ All values from Transparency Platform for Luxembourg are for the monitoring area LU and not the country LU (the power plant Vianden and the lines around it located in Luxembourg are part of the German control area Amprion/Creos and some industrial consumers are directly connected to the French and to the Belgian control areas).
⁵ This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.



Grid information

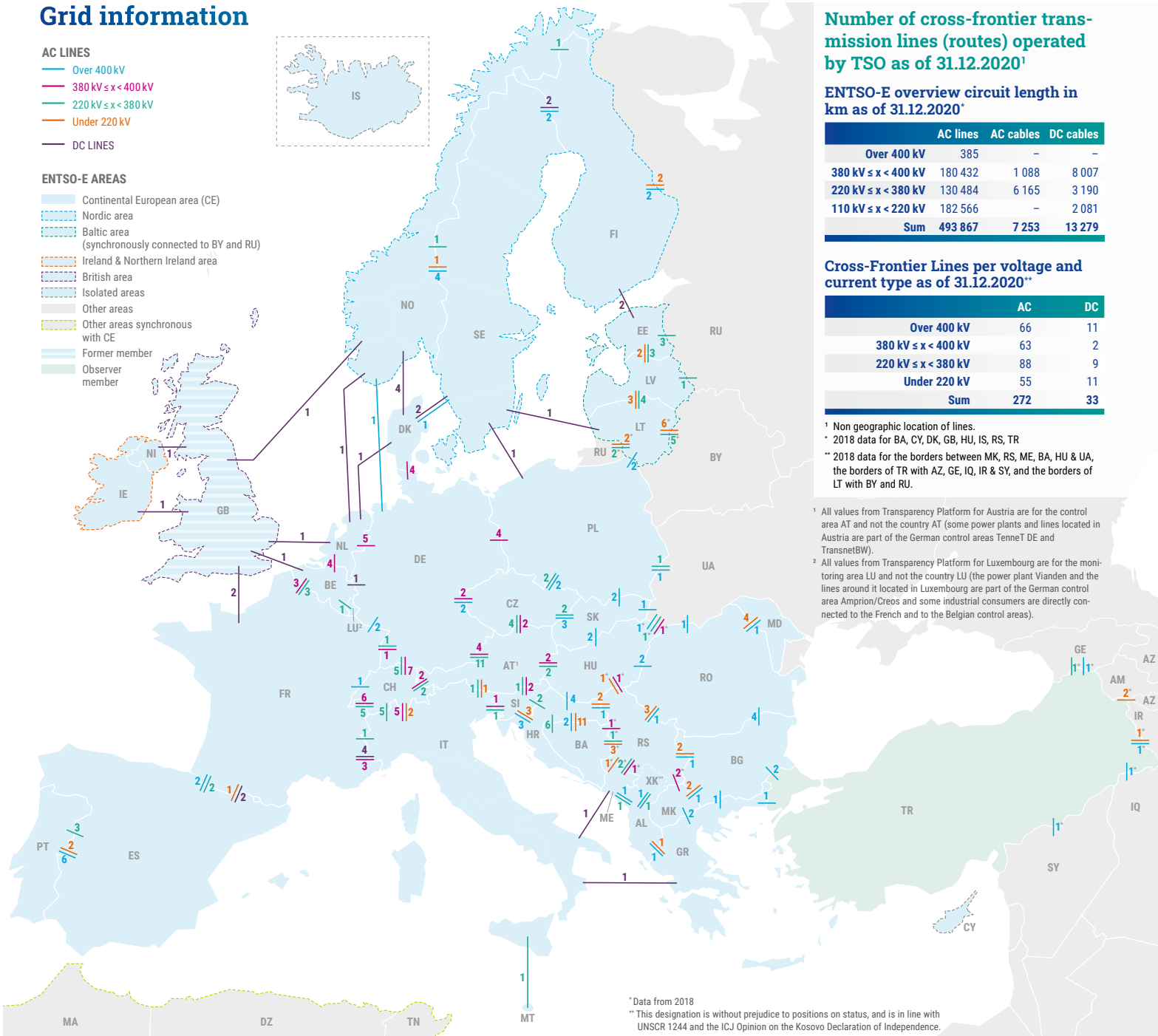
AC LINES

- Over 400 kV
- 380 kV ≤ x < 400 kV
- 220 kV ≤ x < 380 kV
- Under 220 kV

DC LINES

ENTSO-E AREAS

- Continental European area (CE)
- Nordic area
- Baltic area
(synchronously connected to BY and RU)
- Ireland & Northern Ireland area
- British area
- Isolated areas
- Other areas
- Other areas synchronous with CE
- Former member
- Observer member



Number of cross-frontier transmission lines (routes) operated by TSO as of 31.12.2020¹

ENTSO-E overview circuit length in km as of 31.12.2020²

	AC lines	AC cables	DC cables
Over 400 kV	385	-	-
380 kV ≤ x < 400 kV	180 432	1 088	8 007
220 kV ≤ x < 380 kV	130 484	6 165	3 190
110 kV ≤ x < 220 kV	182 566	-	2 081
Sum	493 867	7 253	13 279

Cross-Frontier Lines per voltage and current type as of 31.12.2020²

	AC	DC
Over 400 kV	66	11
380 kV ≤ x < 400 kV	63	2
220 kV ≤ x < 380 kV	88	9
Under 220 kV	55	11
Sum	272	33

¹ Non geographic location of lines.

² 2018 data for BA, CY, DK, KG, HU, IS, RS, TR

² 2018 data for the borders between MK, RS, ME, BA, HU & UA, the borders of TR with AZ, GE, IQ, IR & SY, and the borders of LT with BY and RU.

¹ All values from Transparency Platform for Austria are for the control area AT and not the country AT (some power plants and lines located in Austria are part of the German control areas TenneT DE and TransnetBW).

² All values from Transparency Platform for Luxembourg are for the monitoring area LU and not the country LU (the power plant Vianden and the lines around it located in Luxembourg are part of the German control area Amprion/Creos and some industrial consumers are directly connected to the French and to the Belgian control areas).

² Data from 2018

² This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

Members of ENTSO-E

AL	Albania	OST	OST sh.a – Albanian Transmission System Operator
AT	Austria	APG VUEN	Austrian Power Grid AG Vorarlberger Übertragungsnetz GmbH
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BE	Belgium	Elia	Elia System Operator SA
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CZ	Czech Republic	ČEPS	ČEPS a.s.
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ES	Spain	REE	Red Eléctrica de España S.A.U.
FI	Finland	Fingrid	Fingrid Oyj
FR	France	RTE	Réseau de Transport d'Electricité
GB	United Kingdom	National Grid SONI (NI) SHE Transmission SPTtransmission	National Grid Electricity Transmission plc System Operator for Northern Ireland Ltd Scottish Hydro Electric Transmission Ltd Scottish Power Transmission plc
GR	Greece	IPTO	Independent Power Transmission Operator S.A.
HR	Croatia	HOPS	HOPS d.d.
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IE	Ireland	EirGrid	EirGrid plc
IS	Iceland	Landsnet	Landsnet hf
IT	Italy	Terna	Terna – Rete Elettrica Nazionale SpA
LT	Lithuania	Litgrid	Litgrid AB
LU	Luxembourg	Creos Luxembourg	Creos Luxembourg S.A.
LV	Latvia	AST	AS Augstsprieguma tīkls
ME	Montenegro	CGES AD	Crnogorski elektroenergetski sistem AD
MK	Republic of North Macedonia	MEPSO	Transmission System Operator of the Republic of North Macedonia
NI	Northern Ireland ¹	SONI	System Operator for Northern Ireland Ltd
NL	The Netherlands	TenneT NL	TenneT TSO B.V.
NO	Norway	Statnett	Statnett SF
PL	Poland	PSE S.A.	Polskie Sieci Elektroenergetyczne S.A.
PT	Portugal	REN	Rede Eléctrica Nacional, S.A.
RO	Romania	Transelectrica	C.N. Transelectrica S.A.
RS	Serbia	EMS	Akcionarsko društvo Elektromreža Srbije
SE	Sweden	Svenska Kraftnät	Svenska Kraftnät
SI	Slovenia	ELES	ELES, d.o.o.
SK	Slovak Republic	SEPS	Slovenská elektrizačná prenosová sústava, a.s.
Observer member			
TR	Turkey	TEİAŞ	Turkish Electricity Transmission Corporation

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