STATISTICAL FACTSHEET 2018

Provisional values as of 5 June 2019





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

ENTSO-E Transmis	ssion networ	k losses p	ercentage of	consump	otion: 1.7	7%				-				Net	gene	ratio	n 2018															Consu	ımpti	ion 20:	18¹	
Country	Non renewable net generation	Nuclear	Fossil fuels	Of which Fossil Brown coal/Lignite	Of which Fossil Coal-derived gas	Of which Fossil Gas	Of which Fossil Hard coal	Of which Fossil Oil	Of which Fossil Oil shale	Of which Fossil Peat	Of which Mixed fuels	Of which Other fossil fuels	Hydro pure pumped storage	Hydro mixed pumped storage (non renewable part)	Waste (non renewable part)	Other non-renewable	Renewable net generation	Wind offshore	Wind onshore	Solar PV	Solar Thermal	Biomass	Biogas	Geothermal	Waste (renewable part)	Hydro Pure storage	Hydro Run-of-river and pondage	Hydro mixed pumped storage (renewable part)	Hydro Marine (tidal/wave)	Other renewable	Not identified	Total net generation	Pumping	Consumption	Variation (compared with 2017)	Country
	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	TWh	TWh	TWh	TWh	TWh	TWh	TWh	TWh		
AL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1		-	-	-	-	-	-	-	5.9	2.2	-	-	-	-	8.1	-	7.2	0.5	AL
AT ²	18.6	-	15.0	-	-	9.8	1.8	0.6	-	-	n.a.	2.7	-	3.6	-	-	43.2	-	5.9	n.a.	-	n.a.	n.a.	n.a.	n.a.	n.a.	24.0	10.1	-	3.2	5.7	67.5	5.1	71.4	0.3	AT 2
BA	11.0	-	10.8	10.8	-	-	-	-		-		-	-	0.1	-	-	6.3		0.1	-	-	-	-	-	-	5.8	-	0.3	-	-	0.1	17.3	0.1	12.6	- 0.2	BA
BE	53.5	27.0	24.3	-	2.1	22.1	-	0.1	-	-	-	-	1.0	-	1.0	0.2	15.6	3.4	3.7	3.5	-	2.7	0.8	-	1.2	-	0.3	-	-	0.1	-	69.1	1.3	85.1	0.3	BE
BG ³	34.3	15.3	18.7	16.8	-	1.7	0.3	-	-	-	-	-	0.3	0.0	-	-	8.0	-	1.4	1.4	-	0.3	-	-	-	2.7	1.6	0.7	-	-	-	42.3	0.4	34.1	- 0.9	BG ³
СН	26.8	24.4	1.0	-	-	1.0	-	0.0	-	-	-	-	-	-	1.4	-	40.7	-	0.1	1.2	-	0.3	0.4	-	1.3	20.5	16.9	-	-	-	-	67.6	4.0	62.3	- 1.7	СН
CY	4.8	-	4.8	-	-	-	-	4.8	-	-	-	-	-	-	-	-	0.2	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	5.0	-	5.0		CY
CZ	73.0	28.3	43.6	34.2	1.6	4.4	3.2	0.0	-	-	-	0.1	1.1	-	-	-	8.9	-	0.6	2.3	-	2.0	2.4	-	-	0.7	0.9	-	-	-	-	81.8	1.4	66.6		CZ
DE ⁴	384.7	71.9	300.9	134.8	-	87.3	72.9	3.2	-	-	2.6	-	5.6	1.1	5.2	-	212.9	19.0	88.2	41.2	-	40.1	n.a.	0.2	4.7	0.5	17.9	n.a.	-	1.2	-	597.6	8.3	538.1	-0.1	
DK	9.1	-	9.1	-	-	2.2	6.9	0.1	-	-	-	-	-	-	-	-	19.8	4.6	9.3	1.0	-	3.1	0.5	-	1.3	-	0.0	-	-	-	-	28.9	-	34.1	-0.1	
EE	8.8	-	8.8	-	-	-	-	-	8.8	-		-	-	-	n.a.	n. a.	1.5		0.6	0.0	-	0.7	0.0	-	0.0	-	0.1	-	-	-	-	10.3	-	8.7	2.5	
ES	160.7	53.2	103.0	25.6	-	53.7	11.7	12.0	-	-	-	-	1.6	0.4	2.4	0.0	100.3	-	49.6	7.8	4.4	2.8	8.0	-	0.9	24.5	6.6	3.0	-	0.0	-	261.0	3.2	268.9	0.4	
FI	35.8	21.9	13.0	-	-	3.9	5.8	0.2	-	3.0	-	-	-	-	n.a.	0.9	31.7	-	5.9	0.2	-	12.5	-	-	-	-	13.1	-	-	n.a.	-	67.5	-	87.4	2.3	
FR	439.9	393.2	39.5	-	-	31.4	5.8	2.2	-	-	-	-	-	5.1	2.1	-	108.8	-	27.8	10.2	-	2.8	2.4	-	2.4	-	32.3	30.9	-	-	-	548.6	7.3	478.3	-0.7	
GB ⁵	207.4	60.7	146.7	- 140	-	129.9	16.8	0.0	-	-	-	-	-	-	-	-	78.4	16.7	25.6	11.8	-	17.8	0.1	-	0.4	2.5	3.4	-	-	-	-	285.8	3.4	304.0		
GR	29.1	-	29.0	14.9	-	14.1	- 10	-	-	-	-	-	-	0.0	-	-	16.3	-	5.6	3.5	-	0.3	-	-	-	4.4	0.7	0.6	-	1.1	-	45.3	0.0	51.6	-0.6	
HR HU	3.2	140	3.2	-	-	1.9	1.3	- 0.1	-	-	-	-	-	-	-	-	8.9	-	1.3	0.1	-	0.3	0.3	-	0.0	4.6	1.8	0.5	-	0.0	-	12.1	0.1	18.2		HR
	24.8	14.8	10.0	4.5	-	5.4	0.0	0.1		2.2	-	-	0.2	_			3.4	-	0.6	0.3	-	1.8	0.2	-	0.4	-	0.2	-	-	0.2	-	28.2	-	42.5 28.7		HU
IE	19.8	_	19.3	-	_	14.9	2.1	0.0		2.2			0.2		0.3		9.5	_	0.0	_	-	-	-	5.6	0.3	13.5	0.7	-	-	0.2	-	29.3 19.3	0.5	19.3	2.1	
IS IT	170.3		158.7	-	2.2	124.0	28.8	3.6	_	-	_	_	1.9	0.5	2.1	7.2	110.2		17.3	22.9	-	7.6	7.3	5.7	2.1	8.9	36.2	2.0	-	-	-	280.5	2.2	322.2	0.6	
LT	1.1	_	0.4		2.2	0.3	20.0	3.0			0.1		0.5	0.0	0.1	0.2	2.1		1.1	0.1		0.2	0.1	3.7	0.1	0.5	0.4	2.0			_	3.2	0.7	12.1	3.2	
LU	1.6	_	0.2	_	_	0.2	_	_	_	_	-	_	1.2	-	0.1	-	0.4	_	0.3	0.1	-	- 0.2	0.1	-	- 0.1	0.0	0.1	_	_	_	_	2.0	1.7	6.4	-2.1	
LV	3.1	_	3.1	_	_	2.6	_	_	_	_	0.5	_		_	-	_	3.4	_	0.1	-	_	0.5	0.4	_	_	-	2.4	_	_	_	_	6.5		7.4	1.8	
ME	3.5	_	1.4	1.4	_		_	_	_	_	-	_	_	2.0	_	_	0.2	-	0.2	_	-	_	_	_	_	_		_	_		_	3.6	-	3.4		ME
MK	3.4	_	3.4	2.7	_	0.7	_	_	_	-	_	_	_	_	_	_	1.8	-	0.1	0.0	-	_	0.1	_	_	1.4	0.2	_	_	_	_	5.2	-	7.1	- 1.1	
NL ⁶	90.9	2.8	88.1	-	_	71.4	16.7	_	_	-	-	_	_	-	_	_	17.6	3.5	7.4	3.1	-	3.5	-	-	n.a.	_	0.1	_	_	-	_	108.6	-	116.5		NL 6
NO	3.2	-	3.2	-	-	3.2	-	-	-	-	-	_	-	-	-	_	141.4	-	3.4	-	-	-	_	-	-	138.0	-	-	-	-	1.1	145.7	n.a.	135.5		NO
PL 7	136.6	-	136.0	44.8	1.9	12.4	75.2	1.6	-	-	-	-	0.4	0.0	0.3	-	20.4	-	12.5	0.3	-	4.9	0.8	-	-	0.4	1.3	0.2	-	-	-	157.1	0.6	162.2	1.8	PL 7
PT	27.1	-	25.6	-	-	14.4	11.1	0.1	-	-	-	-	-	1.3	-	0.2	28.0	-	12.4	0.8	-	2.8	-	-	-	-	7.3	4.8	-	-	-	55.1	1.6	50.9	2.5	PT
RO	34.7	10.4	24.3	13.0	-	5.0	1.0	-	-	-	5.2	-	-	-	-	-	26.0	-	6.3	1.8	-	0.3	-	-	-	7.3	10.4	-	-	-	-	60.7	0.2	57.9	2.1	RO
RS	29.1	-	28.3	28.1	-	0.2	-	-	-	-	-	-	0.8	-	-	-	10.5	-	0.1	-	-	-	-	-	-	1.2	9.2	-	-	-	-	39.6	1.1	39.1	- 1.4	RS
SE	69.5	65.8	2.8	-	-	0.6	0.5	0.2	-	-	1.5	-	-	-	0.9	-	88.8	-	16.6	-	-	9.8	-	-	1.3	61.0	-	-	-	-	-	158.3	-	141.1	0.7	SE
SI	10.0	5.5	4.1	4.0	-	0.0	-	-	-	-	-	-	-	0.2	0.0	0.3	5.0	-	0.0	0.2	-	0.1	0.1	-	-	-	4.6	-	-	-	-	15.0	0.3	14.4	1.2	SI
SK	19.2	13.8	5.1	1.3	0.5	1.8	1.2	0.3	-	-	-	0.0	0.3	0.0	0.1	-	5.8	-	0.0	0.6	-	1.1	0.5	-	-	0.5	2.9	0.1	-	0.0	-	25.1	0.4	28.5	-0.3	SK
TR	203.5	-	203.5	44.8	-	89.4	67.8	1.4	-	-	-	-	-	-	-	-	96.9	-	19.9	7.2	-	3.2	-	6.9	-	40.9	18.9	-	-	-	-	300.4	-	300.0	1.9	TR
ENTSO-E	2 351.8	808.8	1488.8	382.0	8.3	710.0	330.9	30.7	8.8	5.3	9.9	2.9	14.8	14.4	16.0	9.0	1300.4	47.2	332.3	121.3	4.4	121.6	17.4	18.4	16.3	345.3	217.1	53.3	-	5.7	7.0	3 659.1	44.1	3 628.4	-	ENTSO-E
%	64.27	22.10	40.69	10.44	0.23	19.40	9.04	0.84	0.24	0.14	0.27	0.08	0.40	0.39	0.44	0.25	35.54	1.29	9.08	3.32	0.12	3.32	0.48	0.50	0.45	9.44	5.93	1.46	0.00	0.16	0.19	100.00				%
EU	2 071.4	784.4	1237.1	294.0	8.3	615.5	263.1	29.3	8.8	5.3	9.9	2.9	14.0	12.3	14.6	9.0	983.3	47.2	308.5	112.9	4.4	118.1	17.0	5.9	15.0	124.0	171.7	52.9	-	5.7	5.7	3 060.5	39.0	3 049.2	-	EU "
%	67.68	25.63	40.42	9.61	0.27	20.11	8.60	0.96	0.29	0.17	0.32	0.09	0.46	0.40	0.48	0.30	32.13	1.54	10.08	3.69	0.14	3.86	0.55	0.19	0.49	4.05	5.61	1.73	0.00	0.19	0.19	100.00				%

All footnotes on page 7

Net generation capacity 2018¹

Country	Non renewable net generation	Nuclear	Fossil fuels	Of which Fossil Brown coal/Lignite	Of which Fossil Coal-derived gas	Of which Fossil Gas	Of which Fossil Hard coal	Of which Fossil Oil	Of which Fossil Oil shale	Of which Fossil Peat	Of which Mixed fuels	Of which Other fossil fuels	Hydro pure pumped storage	Hydro mixed pumped storage (non renewable part)	Waste (non renewable part)	Other non-renewable	Renewable net generation	Wind offshore	Wind onshore	Solar PV	Solar Thermal	Biomass	Biogas	Geothermal	Renewable Waste	Hydro Pure storage	Hydro Run-of-river and pondage	Hydro mixed pumped storage (renewable part)	Hydro Marine (tidal/wave)	Other renewable	Not identified	Total NGC	Country
	MW	WM	MW	MW	MW	MW	MW	MW	MW	MW	WM	MW	MW	MW	WM	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	
AL	97	-	97	-	-	-	-	97	-	-	-	-	-	-	-	-	1835	-	-	-	-	-	-	-	-	1534	301	-	-	-	-	1932	
AT 9	6 574	-	6 4 6 9	-	-	4 853	598	168	-	-	436	414	-	-	-	105	18 839	-	2 887	1 193	-	501	85	1	22	-	5714	8 4 3 6	-	-	-	25 413	
BA	1993		1888	1888	-	- COTA	-	-	-	-	-	-	1 000	105	-	-	2 051	1170	51	0.501	-	- 011	-	-	-	1665	105	335	-	-	-	4 044	
BE	14907	5919	7 378	3 5 5 8	-	6974	175	404	-		-	-	1308	100	302	-	7764	1179	2068	3 581	-	811	-	-	-	1534	125	-	-	-	-	22 671 11 454	
BG CH	7 435 3 544	1950 3333	4488	3 338	-	755	1/5	-	-	_	-	-	864	133	211	-	4 0 2 0 1 4 3 5 1	-	700	1052 1664	-	77 196	-	-	211	8152	600 4 053	57	-	-	-	17 895	
CY 11	1478	3 333	1478		_	_	_	1478		_	-	-		_	-	_	290	-	75 155	1004	-	190	-	-	211	0 132	4005	-	-	135	-	1768	
cz	16 568	4 040	11 256	8 4 5 0	380	1 226	1200	14/0	_	_	_	-	1172	_	100	_	4 252	_	316	2 049	_	400	400	_	_	753	334	_		133	_	20820	
DE 12	99 933	9 5 1 6	83 170	21110	_	31 614	24 645	4 440	_	_	1361	_	5 2 9 4	1062	892	_	115 112	6385	51844	43 922	-	7 5 7 0	n.a.	42	892	205	3 781	n.a.	-	472	-	215 046	
DK	6 5 3 6	_	6536	_	_	1829	3 656	1007	_	-	44	-	-	-	-	-	9 5 1 9	1701	4 423	1000	-	1954	112	-	323	-	7	-	-	-	-	16 05 5	
EE	2378	-	2 351	-	-	200	-	9	1 903	-	240	-	-	-	17	10	454	-	341	9	-	86	6	-	3	-	9	-	-	-	-	2832	EE
ES	55 482	7117	44 449	1056	-	31 184	8975	3 235	-	-	-	-	3 3 2 9	-	518	68	48 612	-	23 507	4714	2304	628	232	-	162	12034	1942	3 0 7 3	-	16	-	104 094	ES
FI	10036	2 785	6 7 5 9	-	-	1912	2 278	1434	-	1135	-	-	-	-	158	334	7335	-	2013	113	-	1804	-	-	-	-	3 148	-	-	257	-	17371	FI
FR 13	81 718	63 130	18 588	-	-	12 151	2997	3 441	-	-	-	-	-	-	-	-	51 151	-	15 084	8 526	-	691	452	-	883	-	21 092	2 455	240	1728	-	132 869	FR 13
GB	51078	9 160	41918	-	-	30 176	10860	882	-	-	-	-	-	-	-	-	39 129	6610	13 604	13 100	-	2016	1	-	5	2830	963	-	-	-	-	90 207	GB
GR	8 172	-	8172	3 904	-	4 269	-	-	-	-	-	-	-	-	-	-	8 220	-	2 082	2 448	-	60	-	-	-	2470	230	699	-	230	-	16392	GR
HR	2018	-	2018	-	-	743	325	320	-	-	630	-	-	-	-	-	2814	-	556	52	-	58	41	-	6	1388	426	281	-	6	-	4832	HR
HU	7 402	1899	5 503	1049	-	4042	-	412	-	-	-	-	-	-	-	-	1072	-	325	336	-	251	68	-	36	28	28	-	-	-	-	8 4 7 4	HU
IE 14	6 546	-	6214	-	-	4 2 1 5	855	916	-	228	-	-	292	-	40	-	3 696	-	3 080	-	-	-	-	-	40	-	238	-	-	338	269	10510	
IS	11	-	11	-	-	-	-	11	-	-	-	-	-	-	-	-	2 722	-	2	-	-	-	-	748	-	1948	25	-	-	-		2733	
IT	74399	-	67 129	-	1308	50778	6 444	8 599	-	-	-	-	4753	-	212	2 305	56 537	-	10310	20120	-	1559	1375	962	212	5 162	12 768	4015	-	54	-	130 935	
LT	2718	-	1760	-	-	568	-	-	-	-	1 192	-	900	-	20	37	835	-	533	83	-	52	41	-	-	-	127	-		-	-	3 5 5 3	
LU	1453	-	136	-	-	136	-	-	-	-	-	-	1296	-	21	-	291	-	120	128	-	- q	11	-	-	17	15	-	-	-	-	1744 2829	
LV ME	1121	-	1121	220	-	1031	-	-	-		90	-		660	-	-	1708	-	77	-	-	9	65	-	-	-	1557	-	-	-		952	
MK	1 157	_	220 1157	220 718	_	250	_	189			-	-		- 000	-	-	72	-	37	17	-	-	7	-	-	567	109	-	-	-	-	1894	
NL	20 687	486	20 201	710	_	15 570	4631		_	_	_	_		_	_	_	9.844	957	3 6 6 9	3 937	-	485	-	_	758	-	38	_	-	-	_	30531	
NO	542	-	542	_	_	542	-	_	_	_	_	_	-	-	-	-	34 480	-	1749	45	_	_	7	-	51	25 385	5801	1388	0	53	-	35 022	
PL 15	32 050	-	30 595	8 0 4 9	387	2 585	19 195	379	-	-	-	-	1398	-	57	n.a.	7 828	-	5 608	399	-	719	145	-	-	177	402	378	-	-	-	39878	
PT	6 397	-	6379	-	-	4 609	1756	14	-	-	-	-	-	-	-	18	13 581	-	5 150	558	-	658	-	-	-	1515	2 880	2820	-	-	-	19978	PT
RO	9 077	1300	7 777	3 3 4 1	-	1826	1032	-	-	-	1578	-	-	-	-	-	10 689	-	2977	1262	-	121	-	-	-	3 5 6 6	2763	-	-	-	-	19766	RO
RS	6136	-	5 5 2 2	5314	-	208	-	-	-	-	-	-	614	-	-	-	2 6 3 0	-	239	-	-	-	-	-	-	401	1990	-	-	-	-	8766	RS
SE	12928	8614	3 869	-	-	849	205	2 6 9 5	-	-	120	-	-	-	445	-	26 980	-	7 205	-	-	3 1 4 5	-	-	-	16 630	-	-	-	-	-	39 908	SE
SI	2 495	696	1 500	981	-	519	-	-	-	-	-	-	-	180	8	111	1463	-	3	290	-	17	31	-	-	-	1122	-	-	-	-	3 9 5 8	SI
SK	5 046	1940	2353	345	-	1111	221	257	-	-	419	-	734	-	19	-	2 682	-	3	531	-	224	104	-	-	318	1208	282	-	12	-	7728	SK
TR	46 097	-	46 097	10118	-	26 107	9 576	288	-	-	6	2	-	-	-	-	42 453	-	7 005	5 0 6 3	-	811	-	1283	-	20 536	7755	-	-	-	-	88 551	TR
ENTSO-E	607 088	121 885	455 102	70 100	2075	242 831	99 624	30 675	1903	1363	6 115	416	21954	2140	3 020	2988	556 047	16831	167 868	116 192	2304	24905	3 184	3 035	3 603	108814	81 550	24219	240	3 3 0 2	269		ENTSO-E
%	52.18	10.48	39.12	6.03	0.18	20.87	8.56	2.64	0.16	0.12	0.53	0.04	1.89	0.18	0.26	0.26	47.79	1.45	14.43	9.99	0.20	2.14	0.27	0.26	0.31	9.35	7.01	2.08	0.02	0.28	0.02	100.00	
EU "	546 631	118 552	399 568	51842	2075		90 048	30 090	1903	1363	6110	414	21340	1375	2 809	2988	454 717	16831	158 639						3 3 4 0	48 626	67 317		240		269	1001617	
%	54.57	11.84	39.89	5.18	0.21	21.54	8.99	3.00	0.19	0.14	0.61	0.04	2.13	0.14	0.28	0.30	45.40	1.68	15.84	10.92	0.23	2.39	0.32	0.10	0.33	4.85	6.72	2.38	0.02	0.32	0.03	100.00	%

- A dash instead of a value means "Not expected", "n.a." means "Not available" on a monthly basis and "n.d.", "Not delivered".
- All values are calculated to represent 100% of the monthly national values. When 0.0 is displayed, the values is higher than 0.0 but lower than 0.05.
- ² All "not available!" do not exist on monthly basis.
- 3 Losses in the 110 kV grid are also included. Biogas generation is included into Biomass subcategory as there is no viable way to estimate it separately and correctly.
- 4 RES (other than hydro), exchanges and losses from TSO data, rest from official statistics; non-renewable part of Hydro mixed pumped storage also contains renewable parts; biomass also contains biogas.
- 5 All data with the country code GB represents data as sum of England, Northern Ireland, Scotland and Wales.
- ⁶ The values for Gas and Hard coal are derivative values.
- Generation data based on Polish monthly statistics and may not correspond with the data presented on PSE web site, where operational data is available only. Data is provisional, since not all information has been available on a monthly basis.
- 8 All values are calculated to represent 100% of the national values.
- $^{\rm 9}~$ For Hydro Pure storage and Hydro mixed pumped storage (renewable part) no official seperate data available
- 10 2016 data. Power data are not available in detailed curves split by production type. Due to that fact the Net.generation capacity has been taken.
- 11 Other RES estimated values no detailed information
- ¹² Biomass also contains biogas. Hydro mixed pumped storage cannot be separted between renewable and non-renewable. Fossil Gas also contains Fossil Coal-derived Gas.
- 13 "Not available" means "not expected". Other renewable means "hydro pure storage".
- ¹⁴ Could not provide previously unused specific categories for some data now included as generic not listed generation.
- ¹⁵ NGC data based on Polish monthly statistics and may not correspond with the data presented on PSE web site, where operational data is available only. Data is provisional, since not all information has been available on a monthly basis.
- * Calculated sum of the ENTSO-E member TSO's countries. From January 2017 on, ENTSO-E sum includes data from Albania.
- "The 28 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, Sweden and United Kingdom. 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.

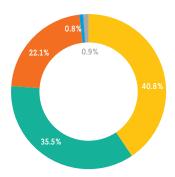
*** 2017 data

4 5 6 7

Generation

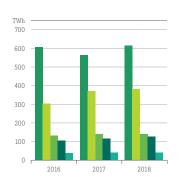
Generation mix in ENTSO-E member TSOs' countries in 2018¹²

	TWh
Fossil fuels net generation (lignite and hard coal, gas, oil, mixed fuels, peat)	1 497.2
Renewable net generation (renewable hydro, wind, solar, biomass, geothermal)	1300.6
Thermal nuclear net generation	808.8
Hydro net generation (except renewable part)	29.2
Net generation not identified	32.0



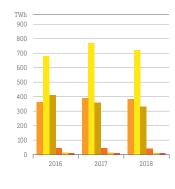
ENTSO-E renewable generation¹

		year	TWh	%
		2016	1183.3	
Renewa	ble net generation	2017	1226.4	
		2018	1 300.6	
		2016	605.4	51
	of which hydro	2017	562.5	46
		2018	615.6	47
		2016	303.5	26
	of which wind	2017	370.9	30
		2018	379.7	29
		2016	131.8	11
	of which biomass	2017	139.4	11
		2018	139.0	11
		2016	104.3	9
	of which solar	2017	114.2	9
		2018	125.9	10
		2016	38.3	3
	of which other renewable	2017	39.5	3
	renewable	2018	40.4	3

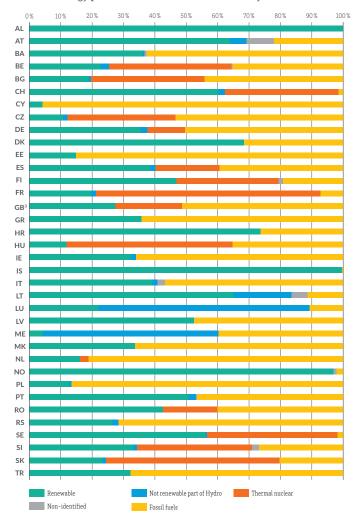


ENTSO-E fossil fuels generation¹

		year	TWh	%
		2016	1522.5	
Fossil fu	els net generation	2017	1588.3	
		2018	1 497.2	
		2016	409.2	27
	of which hard coal	2017	358.2	23
		2018	330.9	22
		2016	679.6	45
	of which gas	2017	767.1	48
		2018	718.5	48
		2016	359.3	24
	of which lignite	2017	389.4	25
		2018	382.0	26
		2016	43.7	3
	of which oil	2017	44.6	3
		2018	39.5	3
		2016	11.5	1
	of which mixed fuels	2017	11.9	1
		2018	9.9	1
		2016	9.58	1
	of which other fuels	2017	8.51	1
		2018	8.20	1



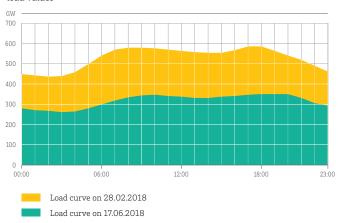
Share of energy produced of each member TSOs' country 2018 in %1,2



- 1 $\,$ All values are calculated to represent 100 % of the national values.
- Share of energy produced, based on the net generation for each TSO as a member of ENTSO-E per the table ENTSO-E in figures on page 2-7.
- $^{\rm 3}$ All data with the country code GB represents data as sum of England, Northern Ireland, Scotland and Wales.

ENTSO-E peak load 2018 (As of 05.06.2019)

${\tt ENTSO-E}$ load diagram on the days of the highest and lowest load values



Country values in MW on the days of highest and lowest ENTSO-E load values $^{\mbox{\scriptsize 1.2}}$

Uai	a values							
	28.02.2018 18:00 - 19:00	17.06.2018 05:00 - 06:00		28.02.2018 18:00 - 19:00	17.06.2018 05:00 - 06:00		28.02.2018 18:00 – 19:00	17.06.2018 05:00 - 06:00
٩L	1354	477	FI	14 152	7116	ME	543	248
٩T	11869	5 149	FR	96328	31437	MK	1147	500
ЗА	2058	888	GB ³	58781	22919	NL	17169	9 600
3E	12759	6779	GR	7791	4136	NO	22856	10315
3G	6469	2632	HR	3119	1337	PL	24465	11842
СН	9 2 6 6	5474	HU	6 5 4 2	3 389	PT	7466	4072
CΥ	762	460	IE	4412	2 125	RO	8854	4 6 6 9
CΖ	10894	4854	IS	2 2 2 2 6	2068	RS	6855	2 629
DΕ	78 926	36571	IT	53 110	23 834	SE	26646	9 890
ЭK	6076	2425	LT	1904	943	SI	2301	1169
Ε	1170	770	LU	847	640	SK	4413	2496
ES	35 608	20 780	LV	1192	548	TR	39387	18974
						*	589716	264 157

*ENTSO-E4

- ¹ This is the average of the hour.
- 2 $\,$ The values are not scaled to 100 % coverage ratio, only DE (98 %), LU (75 % from Apr. to Dec.) and PL (98 %) use a coverage ratio less than 100 %.
- 3 All data with the country code GB represents data as sum of England, Northern Ireland, Scotland and Wales.
- 4 Calculated load values as sum of the ENTSO-E member TSOs' countries. From January 2017 on, ENTSO-E sum includes data from Albania.

Highest and lowest hourly load values of each country 2018 in MW¹

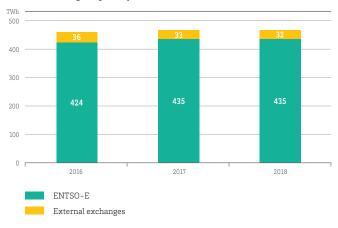
	Highestlo	ad	value	Lo	value	
	Date	Time ²	(in MW)	Date	Time ²	(in MW)
AL	31.12.2018	17:00 - 18:00	1480	02.01.2018	03:00 - 04:00	434
AT	13.12.2018	16:00 - 17:00	12073	01.07.2018	04:00 - 05:00	4844
BA	26.02.2018	18:00 - 19:00	2080	02.05.2018	03:00 - 04:00	828
BE	19.11.2018	18:00 - 19:00	13 453	20.05.2018	14:00 – 15:00	6067
BG	28.02.2018	18:00 - 19:00	6 4 6 9	07.05.2018	02:00-03:00	2361
СН	01.03.2018	10:00 - 11:00	9762	01.08.2018	06:00-07:00	4476
CY	16.07.2018	14:00 - 15:00	958	08.04.2018	15:00 – 16:00	308
CZ	28.02.2018	09:00 - 10:00	11142	08.07.2018	05:00 - 06:00	4618
DE	28.02.2018	19:00 - 20:00	79074	20.05.2018	05:00 - 06:00	35718
DK	28.02.2018	18:00 - 19:00	6076	12.08.2018	05:00 - 06:00	2 2 9 4
EE	01.03.2018	08:00 - 09:00	1532	24.05.2018	03:00 - 04:00	452
ES	08.02.2018	20:00 - 21:00	40611	25.12.2018	05:00 - 06:00	18031
FI	28.02.2018	08:00 - 09:00	14155	24.06.2018	03:00 - 04:00	6581
FR	28.02.2018	18:00 - 19:00	96328	12.08.2018	06:00 - 07:00	30448
GB ³	26.02.2018	19:00 - 20:00	61437	29.07.2018	06:00 - 07:00	20369
GR	17.07.2018	12:00 - 13:00	9 0 6 2	09.04.2018	04:00 - 05:00	3437
HR	26.02.2018	19:00 - 20:00	3 1 6 8	20.05.2018	05:00 - 06:00	1249
HU	02.03.2018	11:00 - 12:00	6572	21.05.2018	05:00 - 06:00	2914
IE	04.12.2018	18:00 - 19:00	4895	30.07.2018	04:00 - 05:00	2 044
IS	29.11.2018	11:00 - 12:00	2450	17.02.2018	12:00 - 13:00	1522
IT	01.08.2018	15:00 - 16:00	57572	26.12.2018	03:00 - 04:00	19511
LT	24.01.2018	09:00 - 10:00	1999	16.04.2018	02:00 - 03:00	858
LU	26.02.2018	18:00 - 19:00	1031	12.08.2018	04:00 - 05:00	401
LV	23.02.2018	08:00-09:00	1252	24.06.2018	04:00 - 05:00	459
ME	09.08.2018	20:00 - 21:00	590	21.05.2018	05:00 - 06:00	228
MK	23.12.2018	17:00 - 18:00	1388	07.05.2018	03:00 - 04:00	369
NL	12.12.2018	17:00 - 18:00	18479	02.09.2018	05:00 - 06:00	9 2 4 5
NO	01.03.2018	08:00 - 09:00	24108	29.07.2018	05:00 - 06:00	9343
PL	28.02.2018	18:00 – 19:00	24465	20.05.2018	05:00 - 06:00	11339
PT	07.02.2018	19:00 – 20:00	8721	14.10.2018	05:00 - 06:00	3561
RO	27.02.2018	18:00 – 19:00	8920	08.04.2018	13:00 - 14:00	4091
RS	28.02.2018	19:00 – 20:00	6867	02.05.2018	05:00 - 06:00	2428
SE	28.02.2018	08:00 - 09:00	27380	05.08.2018	05:00 - 06:00	9164
SI	01.03.2018	12:00 - 13:00	2381	02.05.2018	04:00 - 05:00	927
SK	27.02.2018	09:00 - 10:00	4519	29.07.2018	05:00 - 06:00	2395
TR	03.08.2018	15:00 – 16:00	45 996	16.06.2018	05:00 - 06:00	18497
*	28.02.2018	18:00 - 19:00	589716	17.06.2018	05:00-06:00	264 157
* []	TCO E4					

*ENTSO-E4

- 1 This is the average of the hour. The values are not scaled to 100 % coverage ratio, only DE (98 %), LU (75 % from Apr. to Dec.) and PL (98 %) use a coverage ratio less than 100 %.
- ² All times are in CET/CEST
- 3 All data with the country code GB represents monthly statistical data as sum of England, Northern Ireland, Scotland and Wales.
- ⁴ Calculated load values as sum of the ENTSO-E member TSOs' countries. From January 2017 on, ENTSO-E sum includes data from Albania.

Development of exchanges

Development of overall cross-border exchanges of ENTSO-E member TSOs' countries during the past 3 years



Overview electricity exchanges for the past 3 years in GWh

	All Exchanges	ENTSO-E	External ¹
2016	460 567	424 100	36467
2017	467334	434828	32 506
2018	467 102	434893	32 209

External exchanges include Azerbaijan, Belarus, Georgia, Iran, Moldavia, Morocco, Russia and Ukraine

Publisher: Secretariat of ENTSO-E AISBL

Avenue de Cortenbergh 100, 1000 Brussels - Belgium

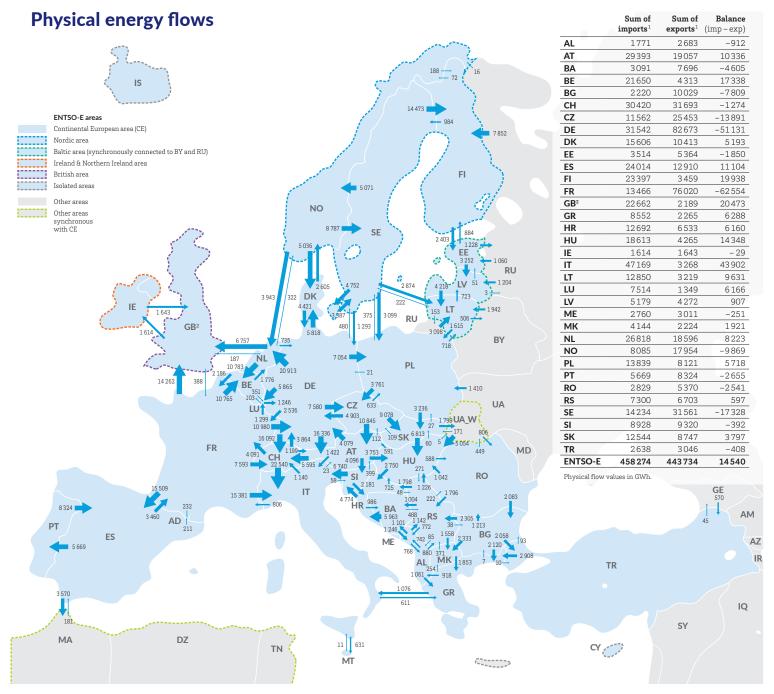
Contribution: ENTSO-E Statistical Data Correspondents and Data Expert Group members

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Consolidated yearly values might differ from detailed flow data from the ENTSO-E database due to expost consolidation taking into account national statistical resources.

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 $^{^2~}$ All data with the country code GB represents monthly statistical data as sum of England, Northern Ireland, Scotland and Wales.

Grid information Number of cross-frontier transmission lines (routes) operated by TSO as of 31.12.2018.1 ENTSO-E overview circuit length in km as AC-lines of 31.12.2018* IS ≥ 400 kV AC lines AC cables DC cables 380-400 kV 300 - 330 kV Over 400 kV 385 220 - 285 kV 110-150 kV 380 kV ≤ x < 176703 4558 4527 400 kV DC-lines 220 kV ≤ x < 131065 1009 3002 380 kV **ENTSO-E** areas 110 kV ≤ x < 166 547 1162 Continental European area (CE) 220 kV Nordic area Sum 474 700 5567 8691 NO Baltic area (synchronously connected to BY and RU) Ireland & Northern Ireland area British area SE Number of cross-frontier lines in the Isolated areas ENTSO-E area as of 31.12.2018* Other areas AC DC Other areas synchronous Over 400 kV 64 7 with CE DK 5 $380 \, \text{kV} \le x < 400 \, \text{kV}$ 130 RU 220 kV ≤ x < 380 kV 110 17 GB² Under 220 kV 1 BY 89 Sum 393 30 * 2017 data for GR, ME and NL. UA 3/ MD FR RO GE 2/ 2/ AD 2||1 ES TR IQ SY MA DΖ TN MT

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Non geographic location of lines.

 $^{^{2}\,}$ All data with the country code GB represents data as sum of England, Northern Ireland, Scotland and Wales.

Members of ENTSO-E

AL	Albania	OST	OST sh.a – Albanian Transmission System Operator
AT	Austria	APG VÜN	Austrian Power Grid AG Vorarlberger Übertragungsnetz GmbH
ВА	Bosnia and Herzegovina	NOS BiH	Nezavisni operator sustava u Bosni i Hercegovini
BE	Belgium	Elia	Elia System Operator NV/SA
BG	Bulgaria	ESO	Electroenergien Sistemen Operator EAD
СН	Switzerland	Swissgrid	Swissgrid AG
CY	Cyprus	Cyprus TSO	Cyprus Transmission System Operator
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´électricité
GB	United Kingdom	National Grid SONI (NI) SHE Transmission SPTransmission	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.
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LU	Luxembourg	Creos Luxembourg	Creos Luxembourg S.A.
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ME	Montenegro	CGES AD	Crnogorski elektroprenosni sistem AD
МК	FYROM	MEPSO	Macedonian Transmission System Operator AD
NL	The Netherlands	TenneT NL	TenneT TSO B.V.
NO	Norway	Statnett	Statnett SF
PL	Poland	PSE	Polskie Sieci Elektroenergetyczne S.A.
PT	Portugal	REN	Rede Eléctrica Nacional, S.A.
RO	Romania	Transelectrica	C.N. Transelectrica S.A.
RS	Serbia	EMS	JAkcionarsko društvo Elektromreža Srbije
SE	Sweden	Svenska Kraftnät	Svenska Kraftnät
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