

STATISTICAL FACTSHEET 2018

Provisional values as of 5 June 2019



European Network of
Transmission System Operators
for Electricity

entsoe

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	MW	MW	MW	MW	MW	MW	MW	MW	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	97	-	97	-	-	-	-	97	-	-	-	-	-	-	-	-	1835	-	-	-	-	-	-	-	1534	301	-	-	-	-	-	1932	AL	
AT ⁹	6574	-	6469	-	-	4853	598	168	-	-	436	414	-	-	-	105	18839	-	2887	1193	-	501	85	1	22	-	5714	8436	-	-	-	25413	AT	
BA	1993	-	1888	1888	-	-	-	-	-	-	-	-	-	-	105	-	2051	-	51	-	-	-	-	-	-	1665	-	335	-	-	-	4044	BA	
BE	14907	5919	7378	-	-	6974	-	404	-	-	-	-	1308	-	302	-	7764	1179	2068	3581	-	811	-	-	-	-	125	-	-	-	-	22671	BE	
BG	7435	1950	4488	3558	-	755	175	-	-	-	-	-	864	133	-	-	4020	-	700	1052	-	77	-	-	-	1534	600	57	-	-	-	11454	BG	
CH ¹⁰	3544	3333	-	-	-	-	-	-	-	-	-	-	-	-	211	-	14351	-	75	1664	-	196	-	-	211	8152	4053	-	-	-	-	17895	CH	
CY ¹¹	1478	-	1478	-	-	-	-	1478	-	-	-	-	-	-	-	-	290	-	155	-	-	-	-	-	-	-	-	-	-	135	-	1768	CY	
CZ	16568	4040	11256	8450	380	1226	1200	-	-	-	-	-	1172	-	100	-	4252	-	316	2049	-	400	400	-	-	753	334	-	-	-	-	20820	CZ	
DE ¹²	99933	9516	83170	21110	-	31614	24645	4440	-	-	1361	-	5294	1062	892	-	115112	6385	51844	43922	-	7570	n.a.	42	892	205	3781	n.a.	-	472	-	215046	DE	
DK	6536	-	6536	-	-	1829	3656	1007	-	-	44	-	-	-	-	-	9519	1701	4423	1000	-	1954	112	-	323	-	7	-	-	-	-	16055	DK	
EE	2378	-	2351	-	-	200	-	9	1903	-	240	-	-	-	17	10	454	-	341	9	-	86	6	-	3	-	9	-	-	-	-	2832	EE	
ES	55482	7117	44449	1056	-	31184	8975	3235	-	-	-	-	3329	-	518	68	48612	-	23507	4714	2304	628	232	-	162	12034	1942	3073	-	16	-	104094	ES	
FI	10036	2785	6759	-	-	1912	2278	1434	-	1135	-	-	-	-	158	334	7335	-	2013	113	-	1804	-	-	-	3148	-	-	257	-	-	13771	FI	
FR ¹³	81718	63130	18588	-	-	12151	2997	3441	-	-	-	-	-	-	-	-	51151	-	15084	8526	-	691	452	-	883	-	21092	2455	240	1728	-	132869	FR	
GB	51078	9160	41918	-	-	30176	10860	882	-	-	-	-	-	-	-	-	39129	6610	13604	13100	-	2016	1	-	5	2830	963	-	-	-	-	90207	GB	
GR ^{***}	8172	-	8172	3904	-	4269	-	-	-	-	-	-	-	-	-	-	8220	-	2082	2448	-	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	7402	1899	5503	1049	-	4042	-	412	-	-	-	-	-	-	-	-	1072	-	325	336	-	251	68	-	36	28	28	-	-	-	-	8474	HU	
IE ¹⁴	6546	-	6214	-	-	4215	855	916	-	228	-	-	292	-	40	-	3696	-	3080	-	-	-	-	-	40	-	238	-	-	338	269	10510	IE	
IS	11	-	11	-	-	-	-	11	-	-	-	-	-	-	-	-	2722	-	2	-	-	-	-	748	-	1948	25	-	-	-	-	2733	IS	
IT	74399	-	67129	-	1308	50778	6444	8599	-	-	-	-	4753	-	212	2305	56537	-	10310	20120	-	1559	1375	962	212	5162	12768	4015	-	54	-	130935	IT	
LT	2718	-	1760	-	-	568	-	-	-	-	1192	-	900	-	20	37	835	-	533	83	-	52	41	-	-	-	127	-	-	-	-	3553	LT	
LU	1453	-	136	-	-	136	-	-	-	-	-	-	1296	-	21	-	291	-	120	128	-	-	11	-	-	17	15	-	-	-	-	1744	LU	
LV	1121	-	1121	-	-	1031	-	-	-	-	90	-	-	-	-	-	1708	-	77	-	-	9	65	-	-	-	1557	-	-	-	-	-	2829	LV
ME ^{***}	880	-	220	220	-	-	-	-	-	-	-	-	-	660	-	-	72	-	72	-	-	-	-	-	-	-	-	-	-	-	-	952	ME	
MK	1157	-	1157	718	-	250	-	189	-	-	-	-	-	-	-	-	737	-	37	17	-	-	7	-	-	567	109	-	-	-	-	1894	MK	
NL	20687	486	20201	-	-	15570	4631	-	-	-	-	-	-	-	-	-	9844	957	3669	3937	-	485	-	-	758	-	38	-	-	-	-	30531	NL	
NO	542	-	542	-	-	542	-	-	-	-	-	-	-	-	-	-	34480	-	1749	45	-	-	7	-	51	25385	5801	1388	0	53	-	35022	NO	
PL ¹⁵	32050	-	30595	8049	387	2585	19195	379	-	-	-	-	1398	-	57	n.a.	7828	-	5608	399	-	719	145	-	-	177	402	378	-	-	-	39878	PL	
PT	6397	-	6379	-	-	4609	1756	14	-	-	-	-	-	-	-	18	13581	-	5150	558	-	658	-	-	-	1515	2880	2820	-	-	-	19978	PT	
RO	9077	1300	7777	3341	-	1826	1032	-	-	-	1578	-	-	-	-	-	10689	-	2977	1262	-	121	-	-	-	3566	2763	-	-	-	-	19766	RO	
RS	6136	-	5522	5314	-	208	-	-	-	-	-	-	614	-	-	-	2630	-	239	-	-	-	-	-	-	401	1990	-	-	-	-	8766	RS	
SE	12928	8614	3869	-	-	849	205	2695	-	-	120	-	-	-	445	-	26980	-	7205	-	-	3145	-	-	-	16630	-	-	-	-	-	39908	SE	
SI	2495	696	1500	981	-	519	-	-	-	-	-	-	-	180	8	111	1463	-	3	290	-	17	31	-	-	-	1122	-	-	-	-	3958	SI	
SK	5046	1940	2353	345	-	1111	221	257	-	-	419	-	734	-	19	-	2682	-	3	531	-	224	104	-	-	318	1208	282	-	12	-	7728	SK	
TR	46097	-	46097	10118	-	26107	9576	288	-	-	6	2	-	-	-	-	42453	-	7005	5063	-	811	-	1283	-	20536	7755	-	-	-	-	88551	TR	
ENTSO-E	607088	121885	455102	70100	2075	242831	99624	30675	1903	1363	6115	416	21954	2140	3020	2988	556047	16831	167868	116192	2304	24905	3184	3035	3603	108814	81550	24219	240	3302	269	1163405	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 ^{**}	546631	118552	399568	51842	2075	215724	90048	30090	1903	1363	6110	414	21340	1375	2809	2988	454717	16831	158639	109403	2304	23898	3170	1005	3340	48626	67317	23884	240	3248	269	1001617	EU	
%	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".

¹ 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.

⁷ 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.

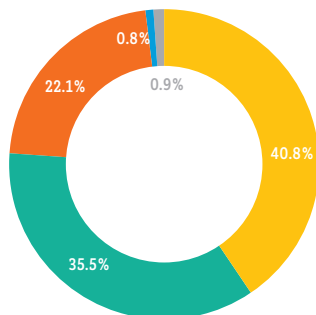
⁸ All values are calculated to represent 100 % of the national values.

⁹ For Hydro Pure storage and Hydro mixed pumped storage (renewable part

Generation

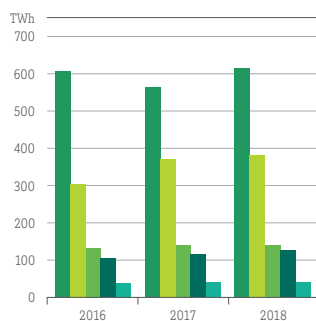
Generation mix in ENTSO-E member TSOs' countries in 2018^{1,2}

	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)	1 300.6
Thermal nuclear net generation	608.8
Hydro net generation (except renewable part)	29.2
Net generation not identified	32.0



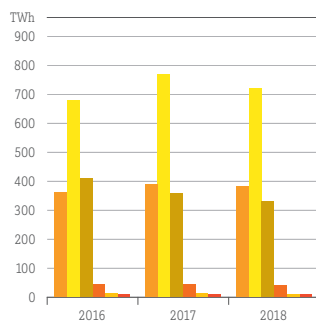
ENTSO-E renewable generation¹

	year	TWh	%
Renewable net generation	2016	1 183.3	
	2017	1 226.4	
	2018	1 300.6	
	of which hydro	605.4	51
	2016	562.5	46
	2018	615.6	47
of which wind	2016	303.5	26
	2017	370.9	30
	2018	379.7	29
of which biomass	2016	131.8	11
	2017	139.4	11
	2018	139.0	11
of which solar	2016	104.3	9
	2017	114.2	9
	2018	125.9	10
of which other renewable	2016	38.3	3
	2017	39.5	3
	2018	40.4	3

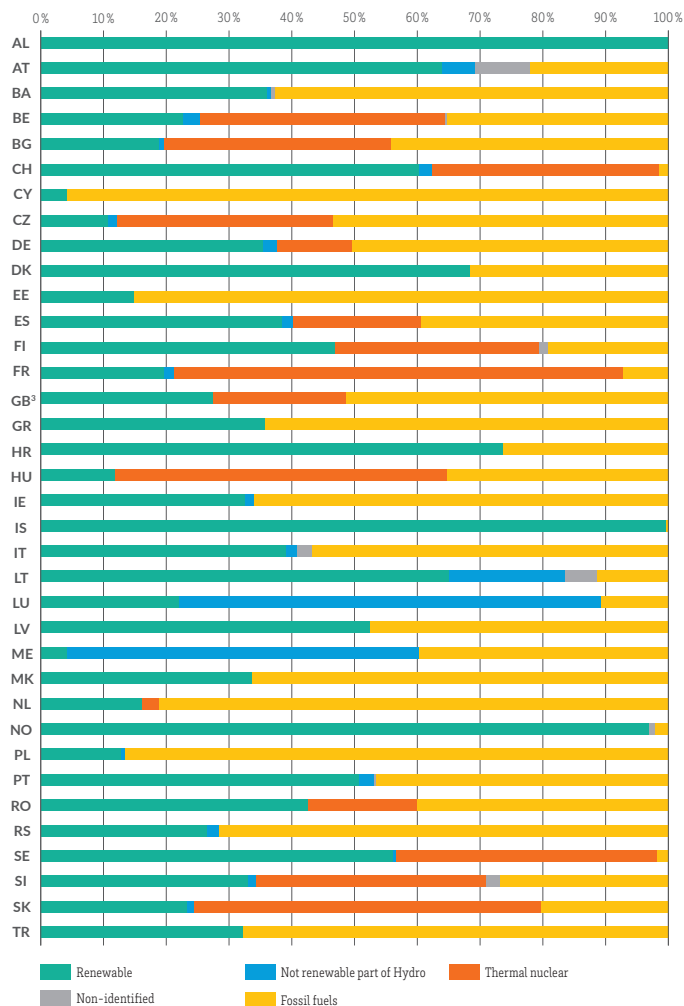


ENTSO-E fossil fuels generation¹

	year	TWh	%
Fossil fuels net generation	2016	1 522.5	
	2017	1 588.3	
	2018	1 497.2	
	of which hard coal	2016	409.2
	2017	358.2	23
	2018	330.9	22
of which gas	2016	679.6	45
	2017	767.1	48
	2018	718.5	48
of which lignite	2016	359.3	24
	2017	389.4	25
	2018	382.0	26
of which oil	2016	43.7	3
	2017	44.6	3
	2018	39.5	3
of which mixed fuels	2016	11.5	1
	2017	11.9	1
	2018	9.9	1
of which other fuels	2016	9.58	1
	2017	8.51	1
	2018	8.20	1



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

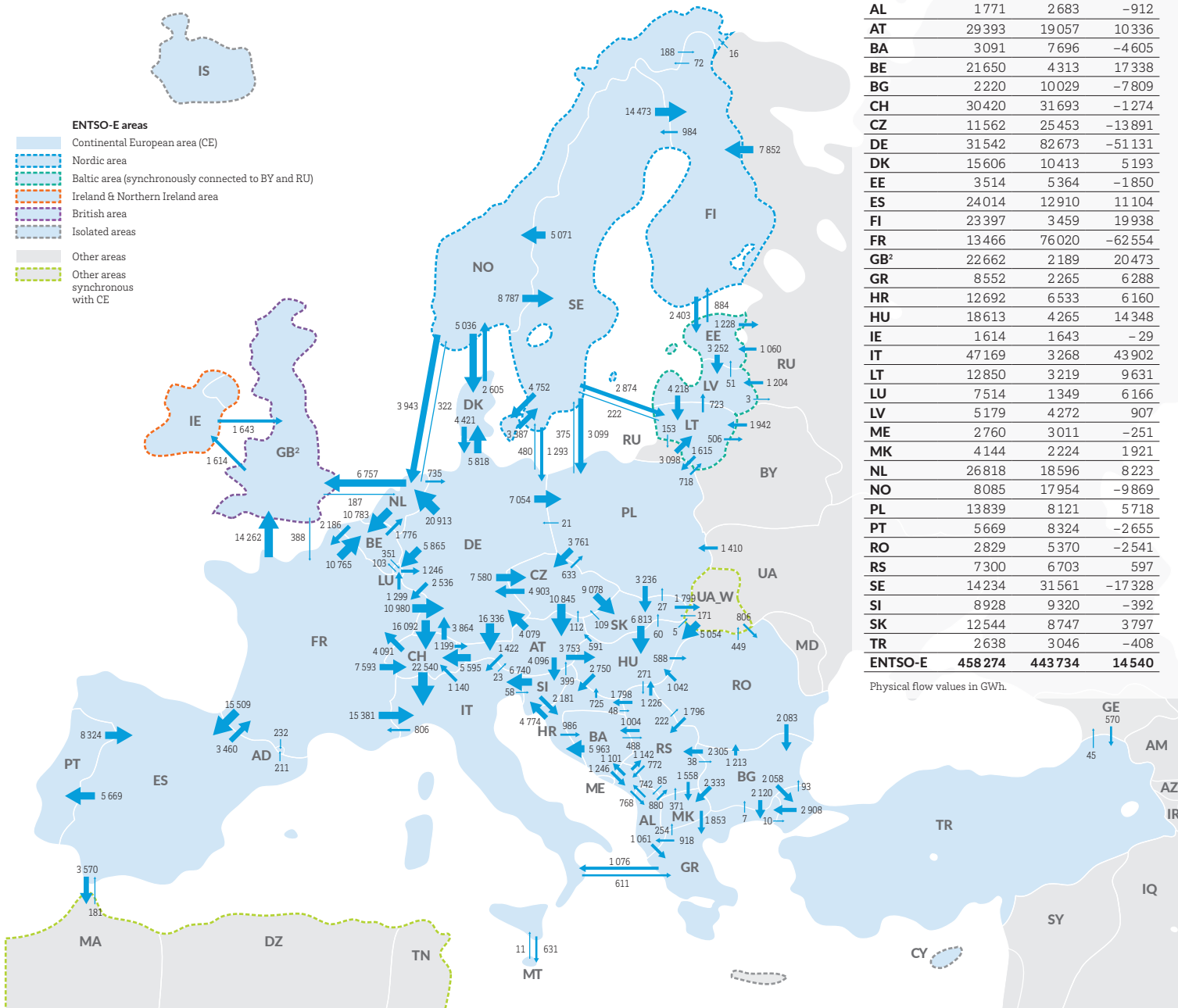


¹ All values are calculated to represent 100% of the national values.

² 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.

³ All data with the country code GB represents data as sum of England, Northern Ireland, Scotland and Wales.

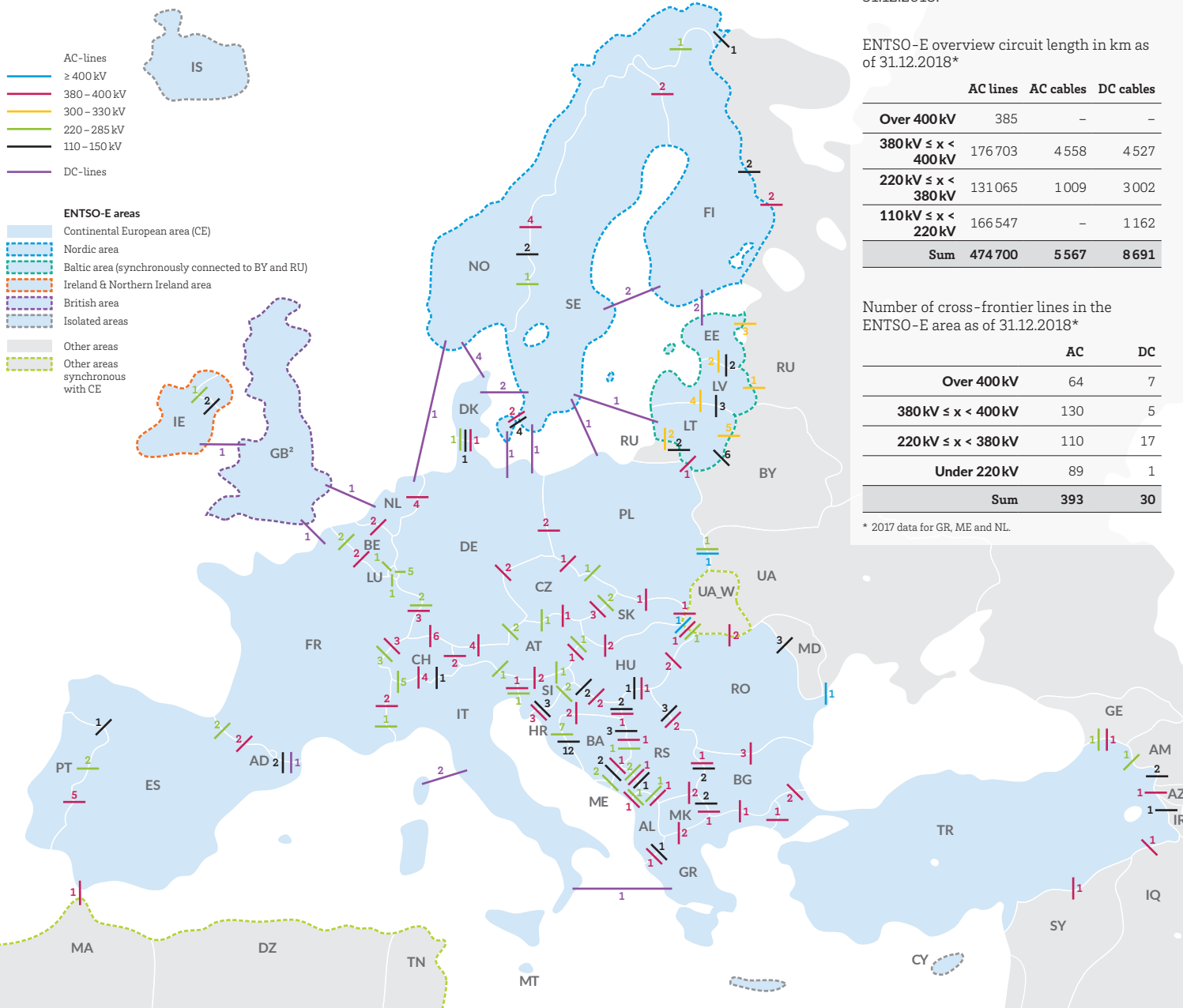
Physical energy flows



¹ Consolidated yearly values might differ from detailed flow data from the ENTSO-E database due to ex-post consolidation taking into account national statistical resources.

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

Grid information



¹ 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
BA	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
CH	Switzerland	Swissgrid	Swissgrid AG
CY	Cyprus	Cyprus TSO	Cyprus Transmission System Operator
CZ	Czech Republic	ČEPS	ČEPS, a.s.
DE	Germany	TransnetBW TenneT DE Amprion 50Hertz	TransnetBW GmbH TenneT TSO GmbH Amprion GmbH 50Hertz Transmission GmbH
DK	Denmark	Energinet.dk	Energinet.dk
EE	Estonia	Elering AS	Elering AS
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.
HR	Croatia	HOPS	HOPS d.o.o.
HU	Hungary	MAVIR ZRt.	MAVIR Magyar Villamosenergia-ipari Átviteli Rendszerező Zártkörűen Működő Részvénytársaság
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	Augstsprieguma tīkls	AS Augstsprieguma tīkls
ME	Montenegro	CGES AD	Crnogorski elektroenergetski sistem AD
MK	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
SI	Slovenia	ELES	ELES, d.o.o., sistemski operater prenosnega elektroenergetskega omrežja
SK	Slovak Republic	SEPS	Slovenská elektrizačná prenosová sústava, a.s.
Observer member			
TR	Turkey	TEİAŞ	Türkiye Elektrik İletim A.Ş.

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