

Monthly report



November 2012

Monthly provisional values as of 07 March 2013

European Network of
Transmission System Operators
for Electricity

entsoe

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General remarks and abbreviations used in the tables

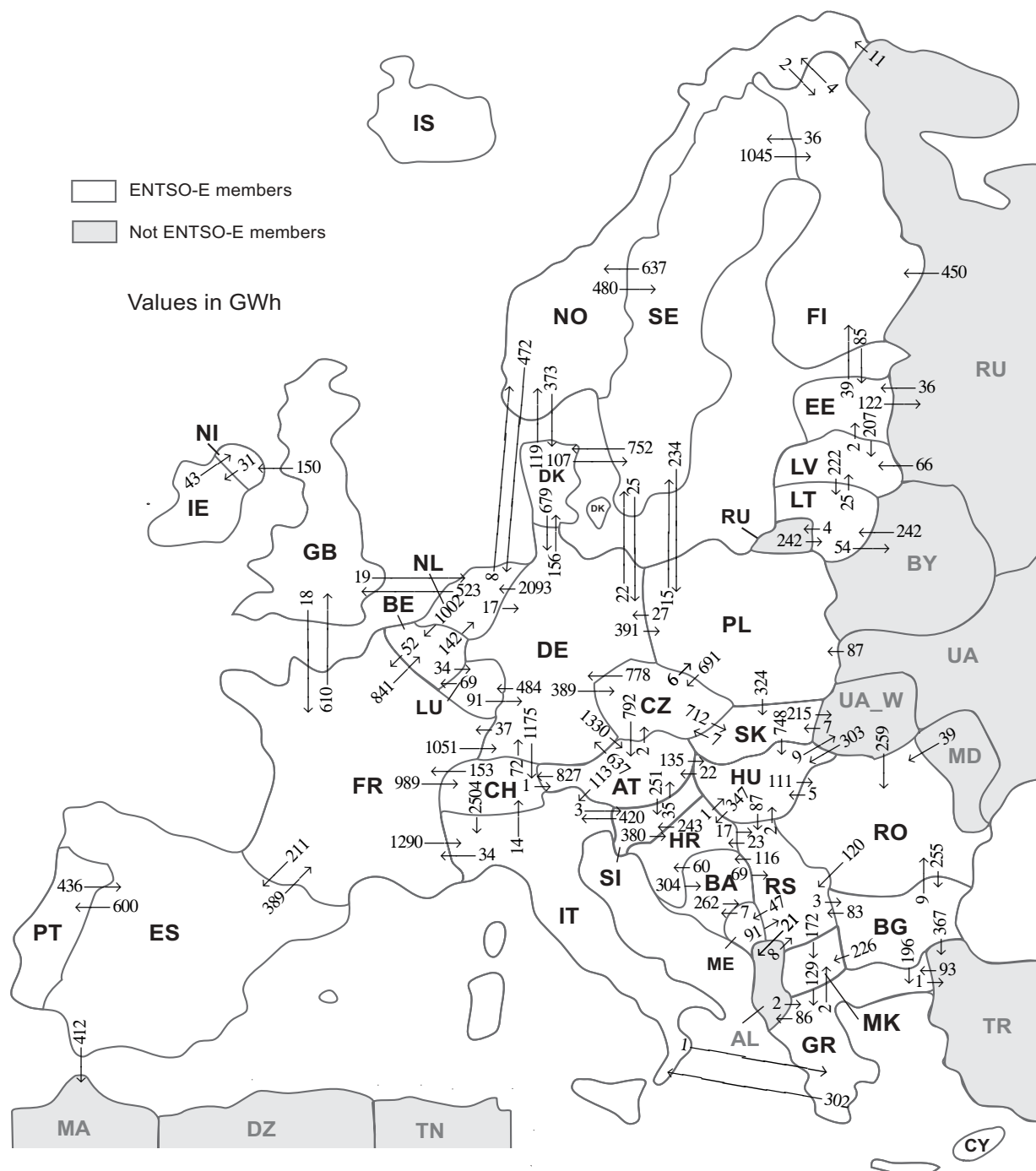
- All values of generation and consumption on page 2, 11 and 12 are calculated to represent 100% of the national values.
- All data with the country code GB represents monthly statistical data as sum of England, Scotland and Wales.
- All data with the country code NI represents the monthly statistical data of the Northern Ireland.
- CET Central European Time

Countries	Net generation in GWh								Exchange balance in GWh	Pump in GWh	Consumption	
	Therm. nuclear	Fossil fuels	Hydro power	Other renew.	of which wind	of which solar	Non identifiable	Total			monthly [GWh]	var. [%]
AT	0	2175	3326	0	0	0	787	6288	161	523	5926	-1,1
BA	0	653	304	0	0	0	0	957	36	0	993	-8,6
BE ²	2593	2408	156	614	300	54	0	5771 ¹	1692	157	7306	0,4
BG	1380	1686	245	133	110	23	0	3444	-628	105	2711	-12,9
CH	2362	213	2865	131	6	0	0	5571 ¹	272	147	5696	-0,5
CY	0	288	0	13	13	0	0	301	0	0	301	-14,0
CZ	2578	3915	234	94	38	58	0	6821 ¹	-1198	111	5512	-3,6
DE ³	8648	33283	2059	4320	1326	894	0	48310 ¹	-2691	740	44879	-0,1
DK	0	1520	2	1103	876	0	0	2625 ¹	377	0	3002	-0,4
EE	0	848	4	114	67	0	0	966	-249	0	717	3,9
ES	4065	10732	2203	5568	4611	528	27	22595	-791	403	21401	4,8
FI	1986	1558	1518	934	60	0	74	6070 ¹	1401	0	7471	3,3
FR	37119	5128	4916	2061	1306	232	0	49224	-4405	546	44273	5,6
GB	4682	21173	674	2307	1246	0	0	28836	940	369	29407	0,9
GR	0	3126	352	431	319	95	0	3909 ¹	29	10	3928	-9,7
HR	0	375	730	42	35	0	0	1147	245	15	1377	-6,6
HU	1388	1558	0	0	0	0	0	2946	617	0	3563	2,9
IE	0	1823	116	369	361	0	16	2324 ¹	-4	50	2270	0,4
IS	0	0	1032	414	0	0	0	1446	0	0	1446	2,5
IT	0	14655	4529	2555	1297	831	0	21739	4577	210	26106	-5,6
LT	0	186	84	80	56	0	0	350 ¹	624	54	920	2,3
LU	0	194	101	12	7	1	0	307	358	129	536	1,3
LV	0	70	495	40	11	0	0	605	73	0	678	5,9
ME ⁴	0	137	30	0	0	0	0	167	190	0	357	n.a.
MK	0	329	105	0	0	0	0	434	269	0	703	-17,9
NI	0	517	1	103	97	0	0	621	-163	0	458	-40,8
NL	370	7213	0	1462	462	n.a.	0	9045	1164	0	10209	-3,8
NO	0	293	11825	177	177	0	0	12295 ¹	-588	73	11634	6,4
PL ⁵	0	11701	189	1040	422	0	0	12930 ¹	-340	70	12520	-1,6
PT	0	1648	964	1438	1202	19	0	4050 ¹	162	137	4075	-0,8
RO	910	2625	834	248	240	n.a.	0	4617	38	6	4649	-4,6
RS	0	2768	690	0	0	0	0	3458	91	95	3454	10,1
SE	6107	315	6242	1804	783	0	0	14468 ¹	-2022	0	12446	5,3
SI	498	411	480	0	0	0	0	1389	-341	0	1048	-3,1
SK	1155	614	313	83	0	19	97	2262 ¹	73	34	2301	-2,7
ENTSO-E	75841	136138	47618	27690	15428	2754	1001	288288¹	-31	3984	284273	n.a.

¹ Including deliveries from industry² The reported figures are best estimates based on actual measurements and extrapolations.³ The reported figures are best estimates based on actual inquiries, measurements and extrapolations.⁴ National monthly values as of November 2011⁵ Operational data. Other renewable includes energy from biomass co-firing in conventional thermal units.

All representativities of the national generation and consumption values on page 2 used to calculate values at a representativity of 100% as stated in the table above:

Countries	Representativities of the national values in %					Consumption
	Thermal nuclear	Fossil fuels	Hydro power	Other renewable	Non identifiable	
AT	100	100	100	100	100	100
BA	100	100	100	100	100	100
BE	100	100	100	100	100	100
BG	100	100	100	100	100	100
CH	100	100	100	100	100	100
CY	100	100	100	100	100	100
CZ	100	100	100	100	100	100
DE	100	100	100	100	100	100
DK	100	100	100	100	100	100
EE	100	100	100	100	100	100
ES	100	100	100	100	100	100
FI	100	100	100	100	100	100
FR	100	100	100	100	100	100
GB	100	96	89	54	100	100
GR	100	100	100	100	100	100
HR	100	100	100	100	100	100
HU	100	100	100	100	100	100
IE	100	100	100	100	100	100
IS	100	100	100	100	100	100
IT	100	100	100	100	100	100
LT	100	100	100	100	100	100
LU	100	100	100	100	100	100
LV	100	100	100	100	100	100
ME	100	100	100	100	100	100
MK	100	100	100	100	100	100
NI	100	100	100	100	100	100
NL	100	100	100	100	100	100
NO	100	100	100	100	100	100
PL	100	100	100	100	100	100
PT	100	100	100	100	100	100
RO	100	100	100	100	100	100
RS	100	100	100	100	100	100
SE	100	100	100	100	100	100
SI	100	100	100	100	100	100
SK	100	100	100	100	100	100



Sum of physical energy flows between ENTSO-E countries:

33231 GWh¹

Total physical energy flows:

36367 GWh¹

¹ Sum of physical energy flows without exchanges between ME-AL.

Not ENTSO-E members:

Albania, Belarus, Morocco, Republic of Moldavia, Republic of Turkey, Russia, Ukraine and Ukraine West

These physical energy flows were measured on the cross-frontier transmission lines (≤ 110 kV) listed in table characteristics of the cross-frontier lines published in the Statistical Yearbook. These values may differ from the official statistics and the exchange balances on page 2.

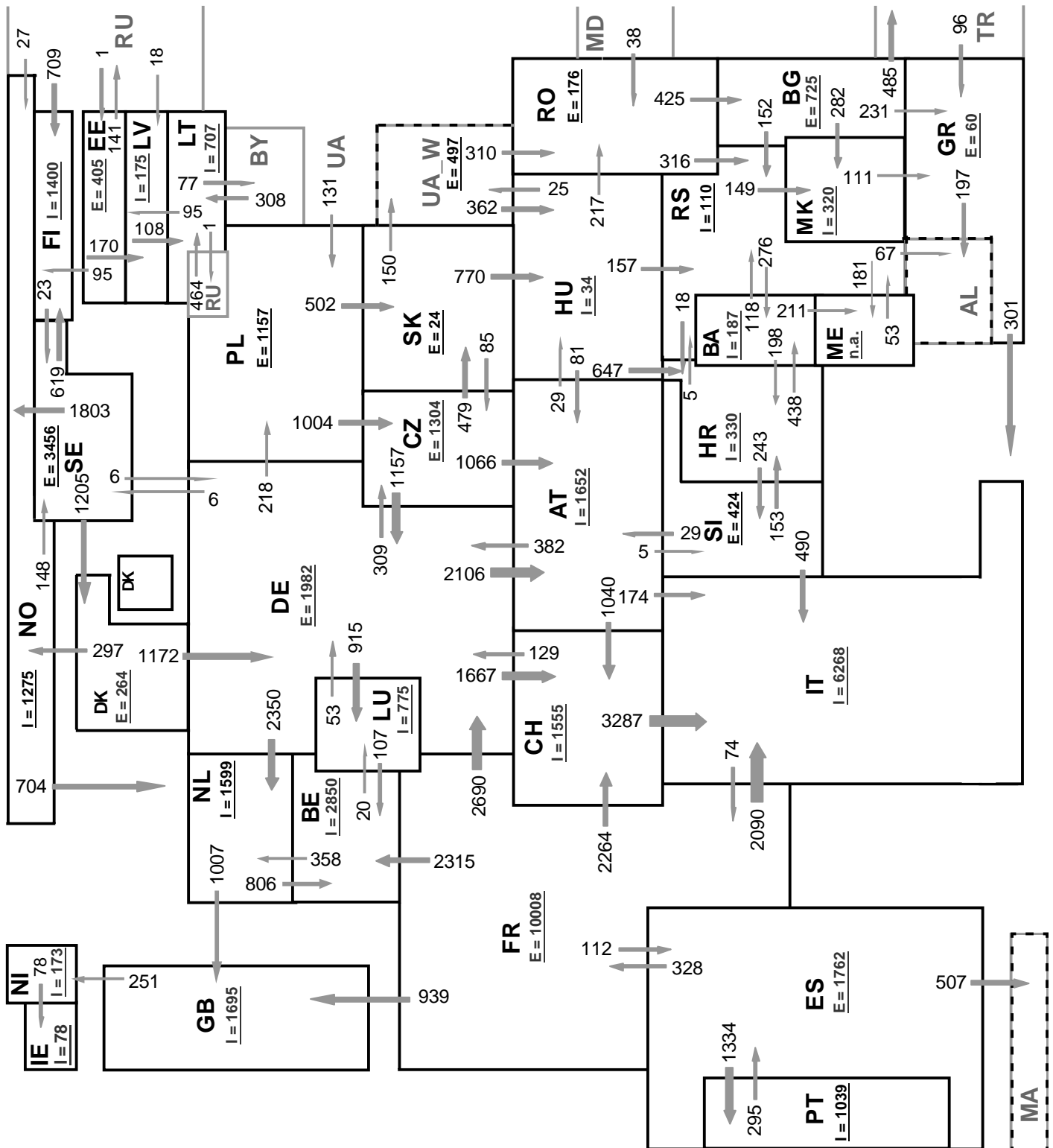
Outside flows countries	Inside flows of the countries																																		
	AT	BA	BE	BG	CH	CZ	DE	DK	EE	ES	FI	FR	GB	GR	HR	HU	IE	IT	LT	LU	LV	ME	MK	NI	NL	NO	PL	PT	RO	RS	SE	SI	SK	Other III ¹	
AT	-	-	-	-	827	2	637	-	-	-	-	-	-	-	-	135	-	113	-	-	-	-	-	-	-	-	-	-	-	-	-	251	-	-	-
BA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-	262	-	-	-	-	-	-	-	69	-	-	-	-	
BE	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	34	-	-	-	-	142	-	-	-	-	-	-	-	-	-	
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	196	-	-	-	-	-	-	-	226	-	-	-	-	-	9	83	-	-	-	-	367	
CH	1	-	-	-	-	-	72	-	-	-	-	153	-	-	-	-	-	2504	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CZ	792	-	-	-	-	-	778	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	712	-	
DE	1330	-	-	-	1175	389	-	156	-	-	-	37	-	-	-	-	-	-	-	484	-	-	-	-	2093	-	391	-	-	-	22	-	-	-	
DK	-	-	-	-	-	-	679	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	119	-	-	-	-	107	-	-	-	
EE	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	-	-	-	207	-	-	-	-	-	-	-	-	-	-	-	-	122	
ES	-	-	-	-	-	-	-	-	-	-	389	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	600	-	-	-	-	-	-	412	
FI	-	-	-	-	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	36	-	-	-	0	
FR	-	-	841	-	989	-	1051	-	211	-	-	-	610	-	-	-	-	1290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GB	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	150	19	-	-	-	-	-	-	-	-	-	
GR	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	302	-	-	-	2	-	-	-	-	-	-	-	-	-	-	87	
HR	-	304	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	243	-	-	
HU	22	-	-	-	-	-	-	-	-	-	-	-	-	-	347	-	-	-	-	-	-	-	-	-	-	-	-	111	87	-	-	0	9	-	
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	
IT	0	-	-	-	14	-	-	-	-	-	-	34	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	
LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	58	
LU	-	-	69	-	-	-	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
LV	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
ME	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91	-	-	-	n.a.		
MK	-	-	-	0	-	-	-	-	-	-	-	-	-	129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
N	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NL	-	-	1002	-	-	-	17	-	-	-	-	-	523	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	
NO	-	-	-	-	-	-	-	373	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	472	-	-	-	-	-	480	-	-	0	
PL	-	-	-	-	691	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	324	0	-	
PT	-	-	-	-	-	-	-	-	436	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RO	-	-	-	255	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	120	-	-	-	0	
RS	-	116	-	3	-	-	-	-	-	-	-	-	-	-	23	2	-	-	-	-	-	47	172	-	-	-	-	0	-	-	-	-	-	21	
SE	-	-	-	-	-	-	25	752	-	1045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	637	234	-	-	-	-	-	-	-	
SI	35	-	-	-	-	-	-	-	-	-	-	-	-	-	380	-	-	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SK	-	-	-	-	7	-	-	-	-	-	-	-	-	-	748	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	215	
Other III ¹	-	-	-	0	-	-	-	-	36	0	450	-	-	95	-	303	-	-	484	-	66	n.a.	-	-	-	-	11	87	-	298	8	-	-	7	-

Other III¹: Albania, Belarus, Morocco, Republic of Moldavia, Republic of Turkey, Russia, Ukraine and Ukraine-West

Sum of the monthly energy flows inside and outside of each country in GWh

	flows inside	flows outside
AT	2180	1965
BA	427	391
BE	1912	228
BG	258	881
CH	3005	2730
CZ	1089	2288
DE	3377	6077
DK	1281	905
EE	123	368
ES	647	1401
FI	1536	125
FR	683	4992
GB	1133	187
GR	421	391
HR	810	565
HU	1194	576
IE	31	43

	flows inside	flows outside
IT	4629	52
LT	706	83
LU	518	160
LV	298	224
ME	n.a.	n.a.
MK	400	129
NI	193	31
NL	2726	1550
NO	779	1327
PL	718	1057
PT	600	436
RO	418	380
RS	475	384
SE	660	2693
SI	497	835
SK	1043	970
ENTSO-E	35076	34522



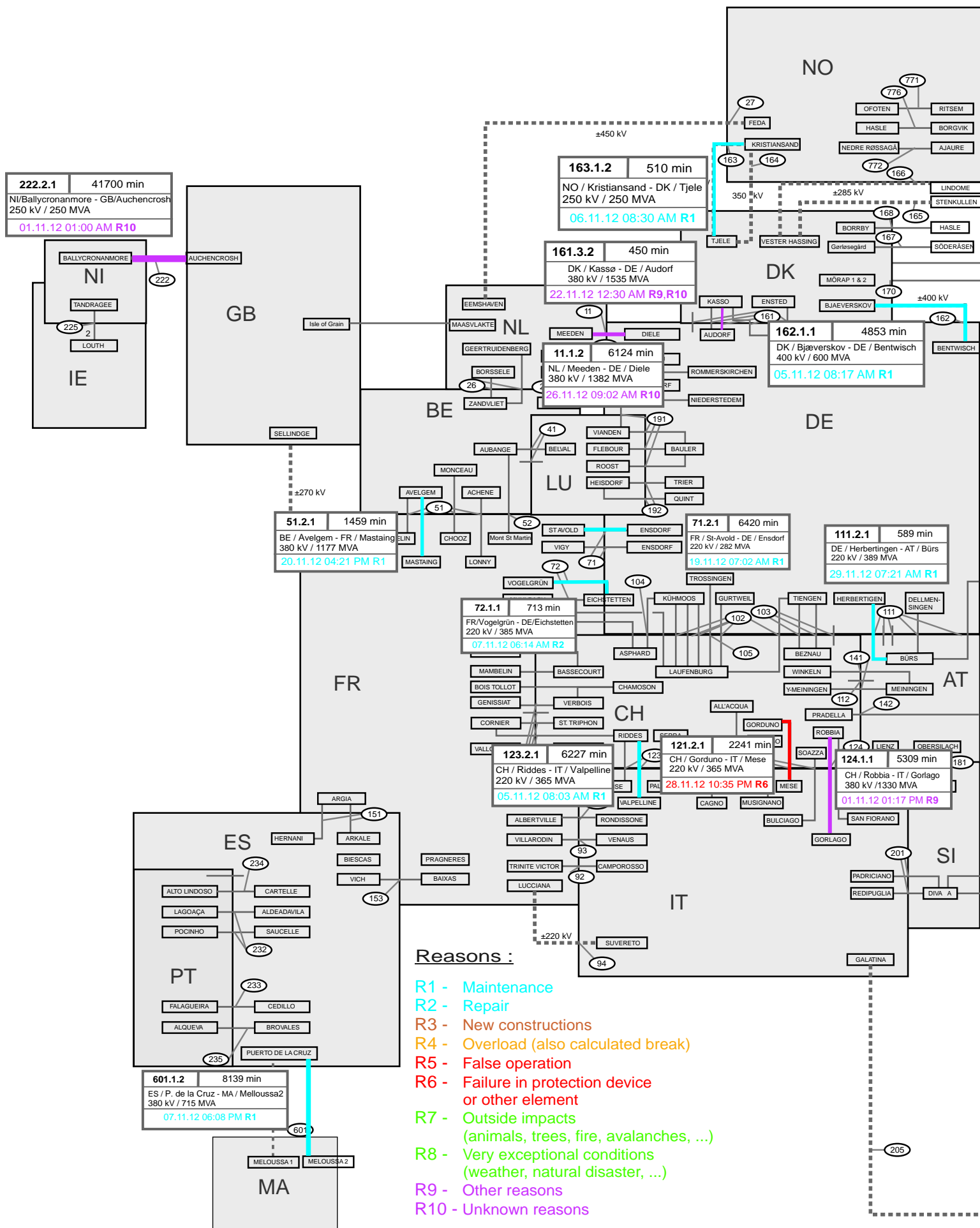
Sum of load flows in MW **ENTSO-E = 44728 MW**
 (Calculated sum without data between ME - AL)

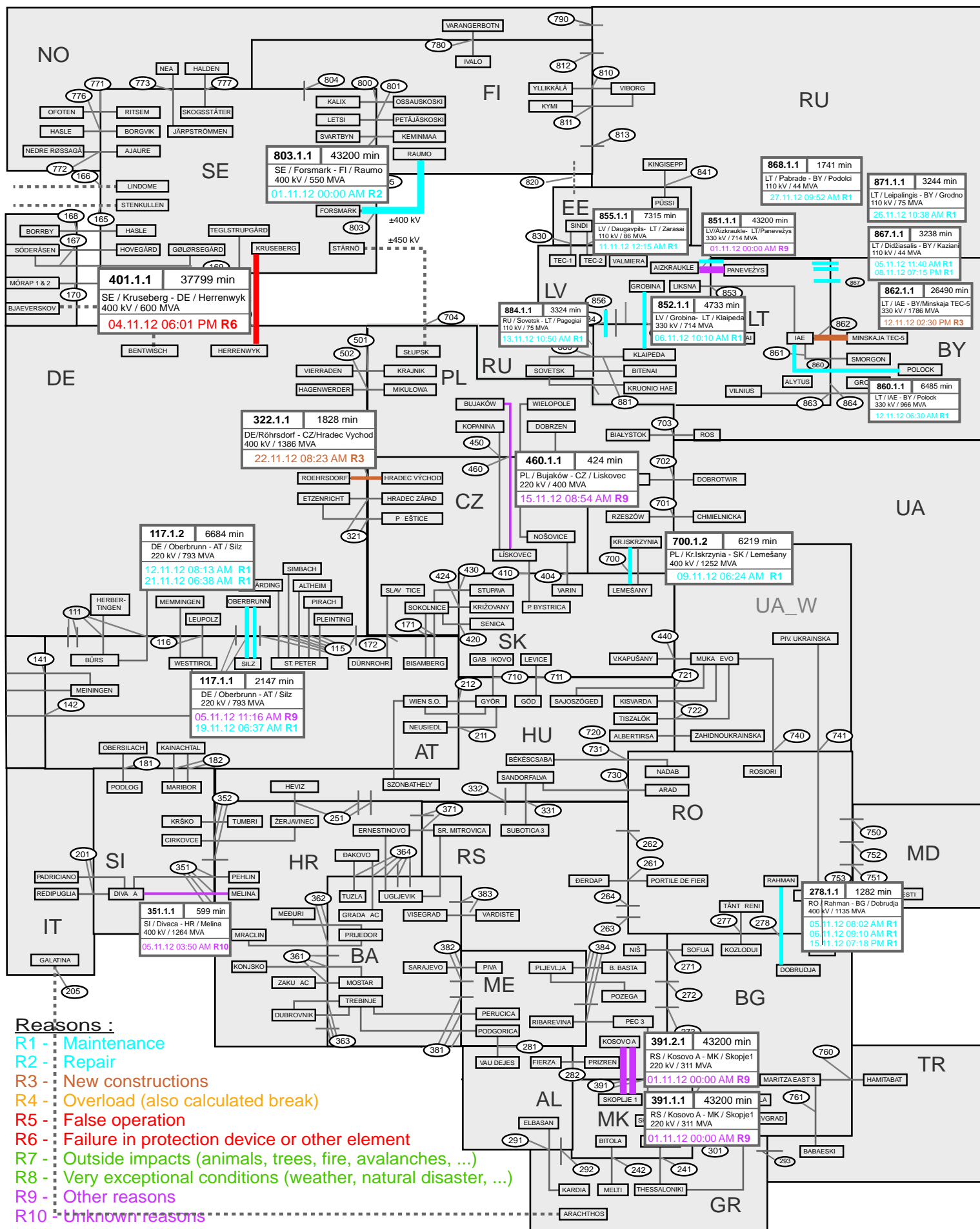
Total = 48842 MW

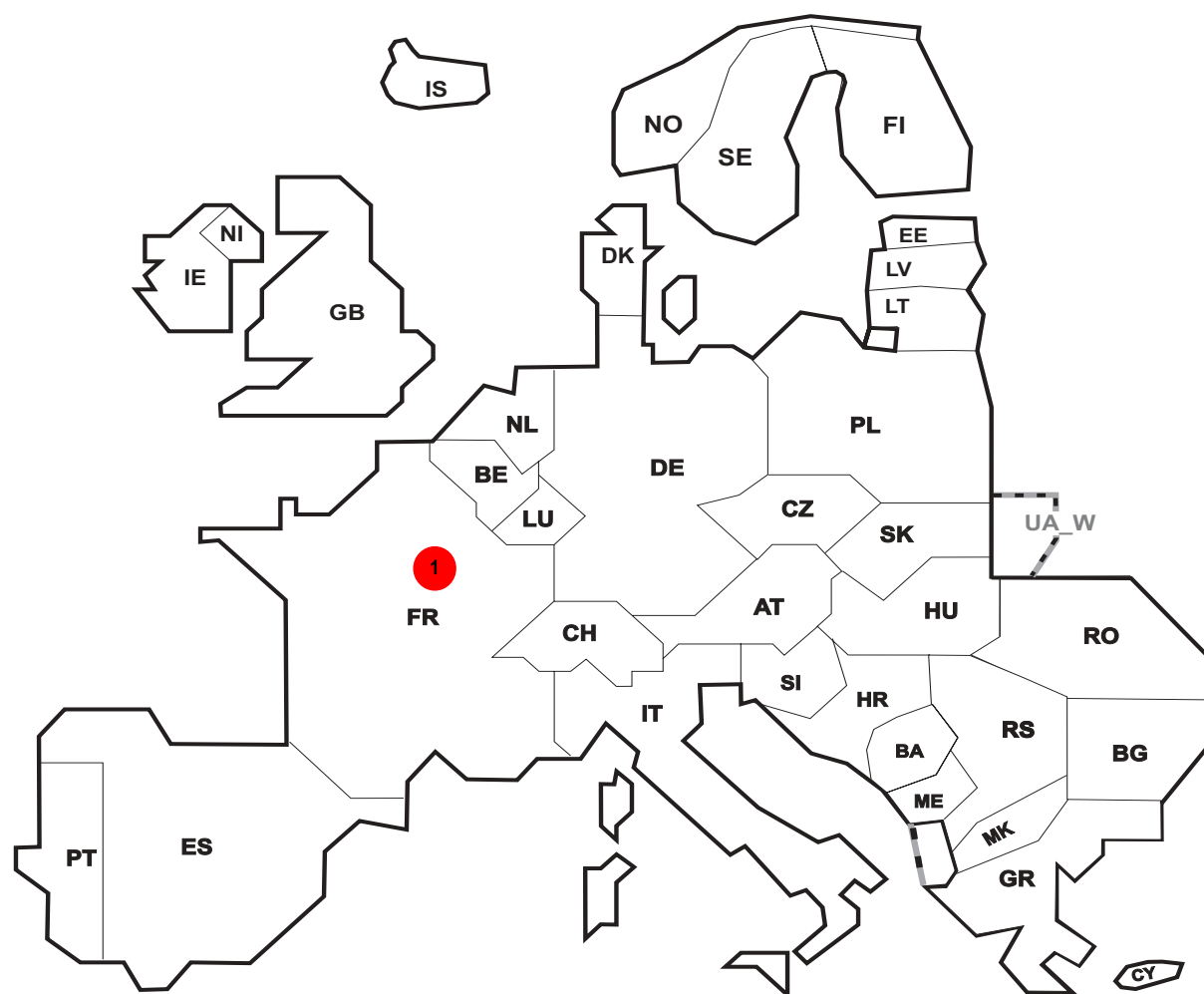
Synchronous operation with ENTSO-E region

I = Import balance
E = Export balance









Reasons:

R4 Overload (also calculated break)

R5 False operation

R6 Failure in protection device or other element

R7 Outside impacts (animals, trees, fire, avalanches, ...)

R8 Very exceptional conditions
(weather, natural disaster, ...)

R9 Other reasons

R10 Unknown reasons

No	Country	Substation	Reason	Energy not supplied [MWh]	Total loss of power [MW]	Average interruption duration [min]	Equivalent time of interruption ¹
1	FR	AMPERE	R5	36	80	27	0,039

Information about incidents in other countries are not shown with energy not supply equal zero or unavailable in the database.

¹ (year [in min] * energy not supplied) / consumption last 12 months

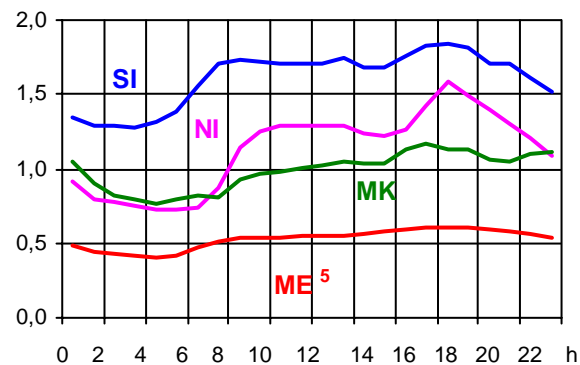
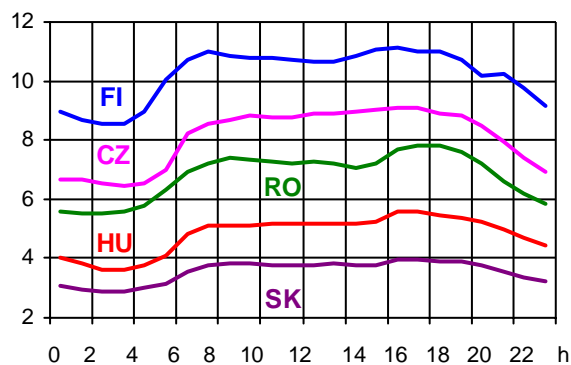
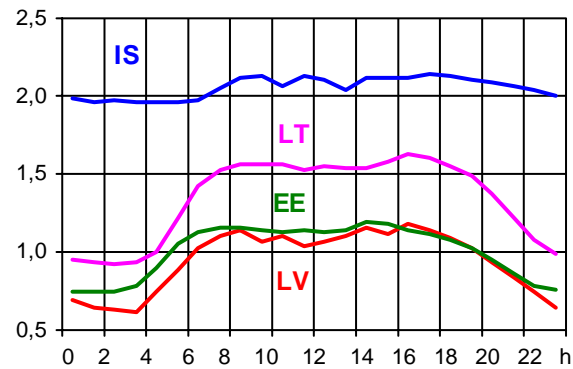
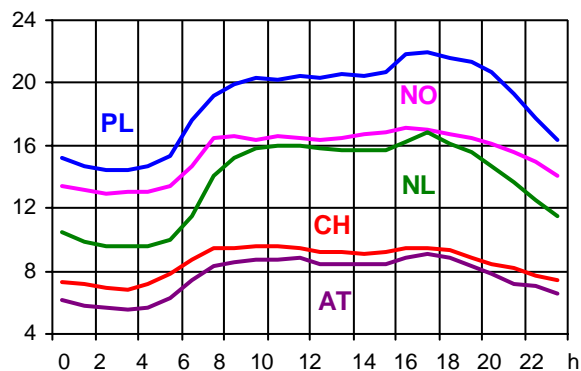
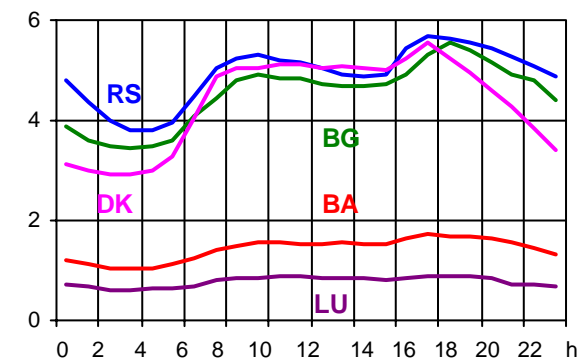
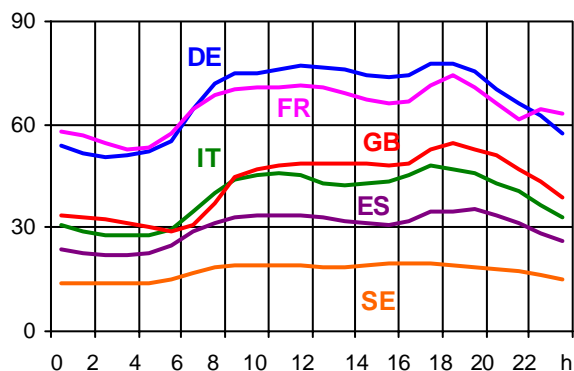
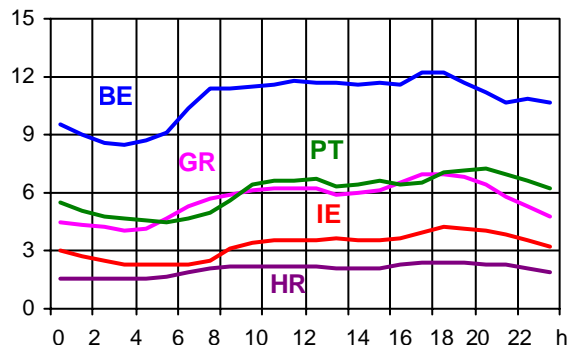
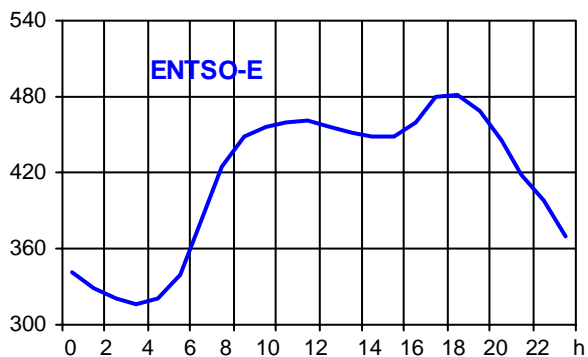
Highest and lowest load on the 21.11.2012 CET of each country

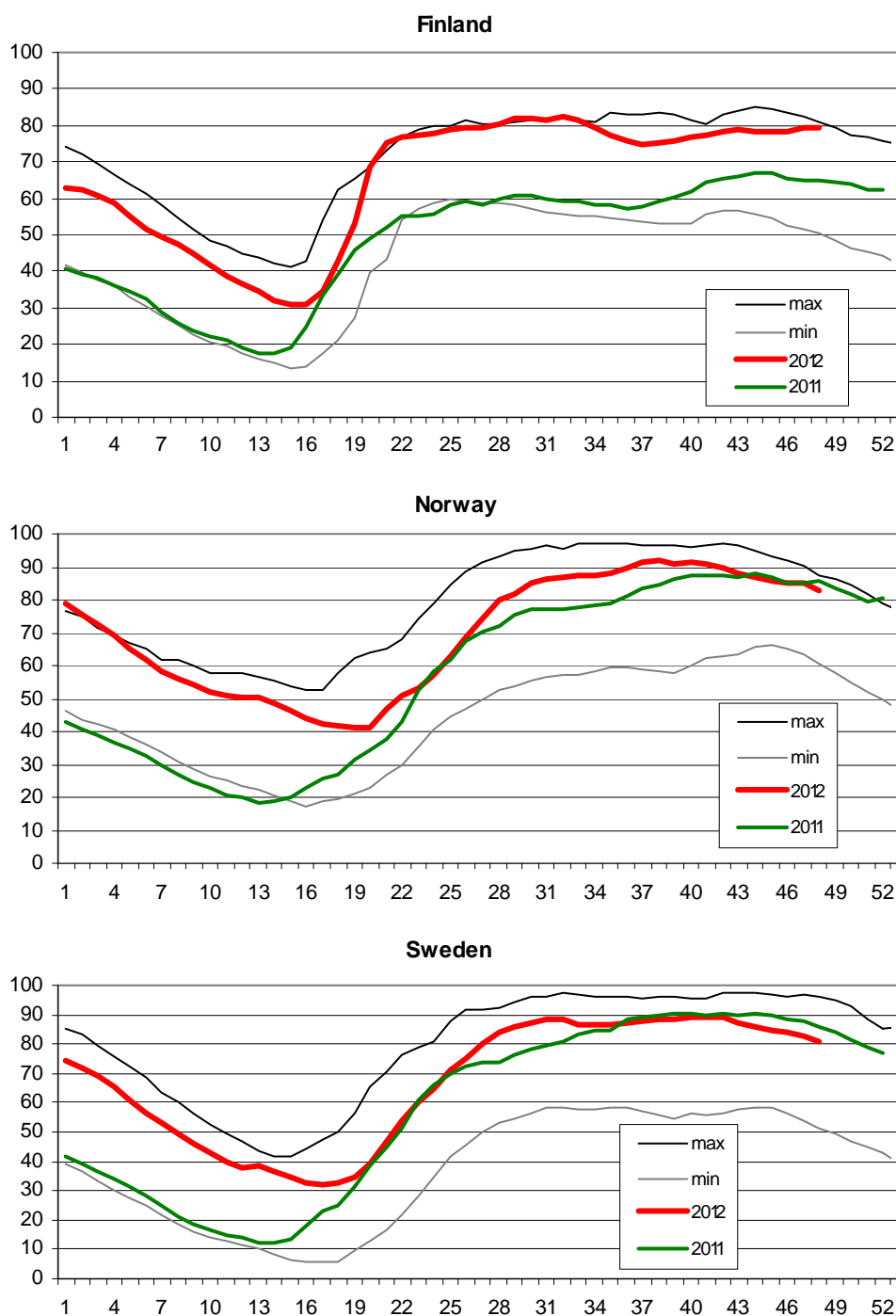
	Highest load MW	variation % ¹	Lowest load MW	variation % ¹	Load representativity %
AT	9100	-0,4	5535	-3,8	100
BA	1738	-9,4	1027	-9,8	100
BE ²	12226	-2,2	8512	-2,6	100
BG	5551	-11,5	3449	-15,4	99
CH	9634	-1,2	6776	0,2	100
CY ³	550	-22,5	277	-25,1	100
CZ	9111	-2,6	6430	-8,2	100
DE ⁴	78055	-3,1	50728	-7,0	91
DK	5542	-1,6	2926	-2,3	100
EE	1186	-0,2	739	-1,7	100
ES	35187	-0,9	21933	0,3	98
FI	11105	-0,2	8552	-3,4	100
FR	74202	-0,2	52858	-0,1	100
GB	54572	-2,1	29294	1,3	92
GR	6950	-10,4	4035	-11,6	100
HR	2424	-9,1	1565	0,1	100
HU	5587	-2,1	3602	-3,3	100
IE	4241	0,8	2249	3,3	100
IS	2135	3,6	1961	5,1	100
IT	48035	-4,0	27638	-3,8	100
LT	1628	0,2	926	-0,6	100
LU	887	-8,7	617	-11,2	100
LV	1180	4,3	620	6,5	100
ME ⁵	607	n.a.	408	n.a.	100
MK	1173	-17,0	762	-17,5	100
NI	1578	1,4	729	-0,4	100
NL	16896	-2,6	9546	-5,2	100
NO	17085	-8,1	12854	-9,9	100
PL ⁶	21904	-0,6	14398	-2,8	100
PT	7190	-0,8	4473	0,7	100
RO	7830	-2,3	5494	-1,9	100
RS	5664	-11,2	3781	-12,7	100
SE	19914	-4,4	13698	-9,7	100
SI	1844	-2,2	1275	10,3	100
SK	3984	0,3	2878	-4,0	100
ENTSO-E	481935	n.a.	315806	n.a.	

¹ Variation as compared to corresponding month of the previous year² The reported figures are best estimates based on actual measurements and extrapolations.³ Only highest and lowest load value available.⁴ A comparison with previous figures may be limited for statistical reasons related to renewable energies feed-in like direct marketing.⁵ Monthly load values as of 16 November 2011⁶ Operational data

Consumption hourly load curves on 21.11.2012 CET

Values in GW





Finland: Reservoir capacity: 5.530 GWh
Minimum and maximum limits are based on values for the years 1990-2002

Norway: Reservoir capacity: 81.729 GWh
The statistics are supposed to cover 97.1 percent of the total reservoir capacity.
The total reservoir capacity is 84 147 GWh
Minimum and maximum limits are based on values for the years 1990-2003

Sweden: Reservoir capacity: 33.758 GWh
Minimum and maximum limits are based on values for the years 1950-2006

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