

Monthly report



August 2012

Monthly provisional values as of 30 November 2012

European Network of
Transmission System Operators
for Electricity

entsoe

Table of contents		Page
1	Electricity supply situation of the countries	2
2	Electricity supply representativity of the countries	3
3	Physical energy flows	4
4	Overview of the detailed physical energy flows	5
5	Load flows (night)	6
6	Load flows (day)	7
7	Unavailability of international tie lines (major events)	8
8	Network reliability (major events)	10
9	Highest and lowest load on the 3 rd Wednesday	11
10	Load diagrams on the 3 rd Wednesday	12
11	Water reservoirs Nordic	13

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	1121	3780	0	0	0	702	5603	213	419	5397	0,3
BA	0	672	185	0	0	0	0	857	126	0	983	-0,1
BE ²	3093	2356	132	649	147	238	0	6230 ¹	572	154	6648	-0,4
BG	1388	1543	289	91	65	26	0	3311	-826	94	2391	-2,8
CH	1351	191	4244	118	6	0	0	5904 ¹	-788	288	4828	-0,8
CY	0	488	0	17	17	0	0	505	0	0	505	2,6
CZ	2067	3279	202	293	19	276	0	5841 ¹	-1097	61	4683	-1,5
DE ³	8574	26453	1624	5925	802	3020	0	42576 ¹	-1367	639	40570	-3,2
DK	0	716	1	674	518	0	0	1391 ¹	1301	0	2692	-2,1
EE	0	826	1	96	24	0	0	923	-363	0	560	1,6
ES	5470	11998	1579	5007	3185	1433	23	24077	-646	366	23065	7,1
FI	1665	607	1363	687	26	0	61	4383 ¹	1763	0	6146	0,0
FR	28333	2549	3572	1855	902	460	0	36309	-3604	483	32222	-1,5
GB	6130	15885	462	1513	817	0	0	23990	1156	328	24818	-0,9
GR	0	3850	464	378	238	123	0	4692 ¹	251	7	4936	1,5
HR	0	413	307	30	22	0	0	750	798	25	1523	0,3
HU	1124	1489	0	0	0	0	0	2613	838	0	3451	6,4
IE	0	1561	92	297	293	0	12	1962 ¹	75	46	1991	-1,8
IS	0	0	1016	390	0	0	0	1406	0	0	1406	1,7
IT	0	17878	3754	3332	650	2240	0	24964	1923	224	26663	0,3
LT	0	305	69	52	33	0	0	426 ¹	485	66	845	2,1
LU	0	144	80	12	5	3	0	236	331	108	459	-7,8
LV	0	141	121	35	8	0	0	297	298	0	595	10,2
ME ⁴	0	123	23	0	0	0	0	146	222	0	368	n.a.
MK	0	328	98	0	0	0	0	426	189	0	615	-4,9
NI	0	497	1	79	74	0	0	577	-105	0	472	-32,2
NL	371	5633	0	1250	250	n.a.	0	7254	1853	0	9107	-1,9
NO	0	308	10685	74	74	0	0	11067 ¹	-2510	231	8326	2,0
PL ⁵	0	10591	151	885	244	0	0	11627 ¹	-44	60	11523	0,0
PT	0	2268	320	926	660	37	0	3514 ¹	456	101	3869	-3,3
RO	942	2335	744	271	208	n.a.	0	4292	80	7	4365	0,7
RS	0	2236	578	0	0	0	0	2814	-14	31	2769	-9,7
SE	4381	131	6029	933	346	0	0	11474 ¹	-1822	0	9652	-0,5
SI	495	389	307	0	0	0	0	1191	-165	0	1026	-0,7
SK	1283	434	258	137	0	75	62	2174 ¹	-67	28	2079	0,2
ENTSO-E	66667	119738	42531	26006	9633	7931	860	255802¹	-488	3766	251548	n.a.

¹ Including deliveries from industry

² The reported figures are best estimates based on actual measurements and extrapolations.

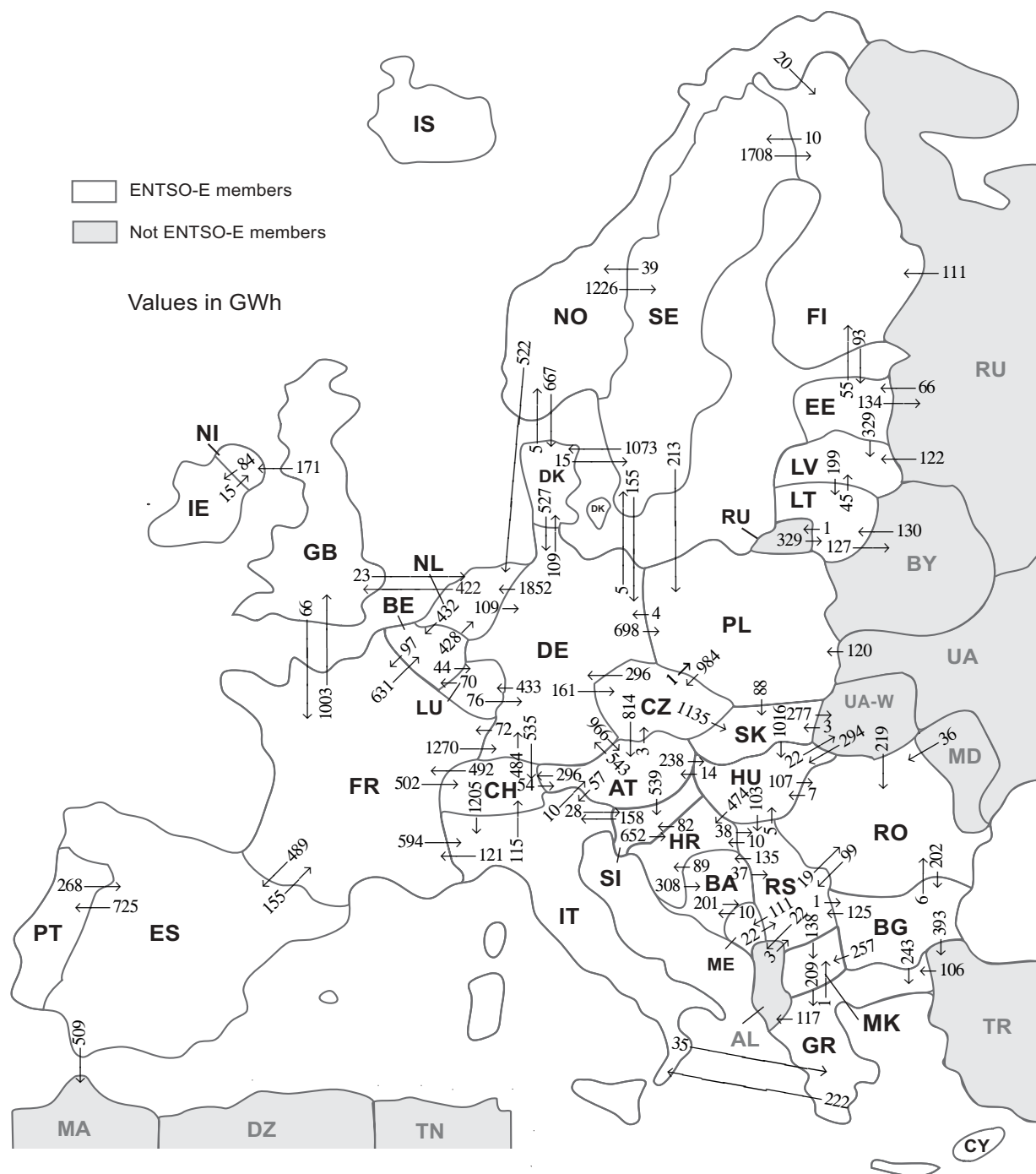
³ The reported figures are best estimates based on actual inquiries, measurements and extrapolations.

⁴ National monthly values as of August 2011

⁵ 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: **32049GWh¹**

Total physical energy flows: **35190GWh¹**

¹ Sum of physical energy flows without exchanges between ME-AL and NO-RU.

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.

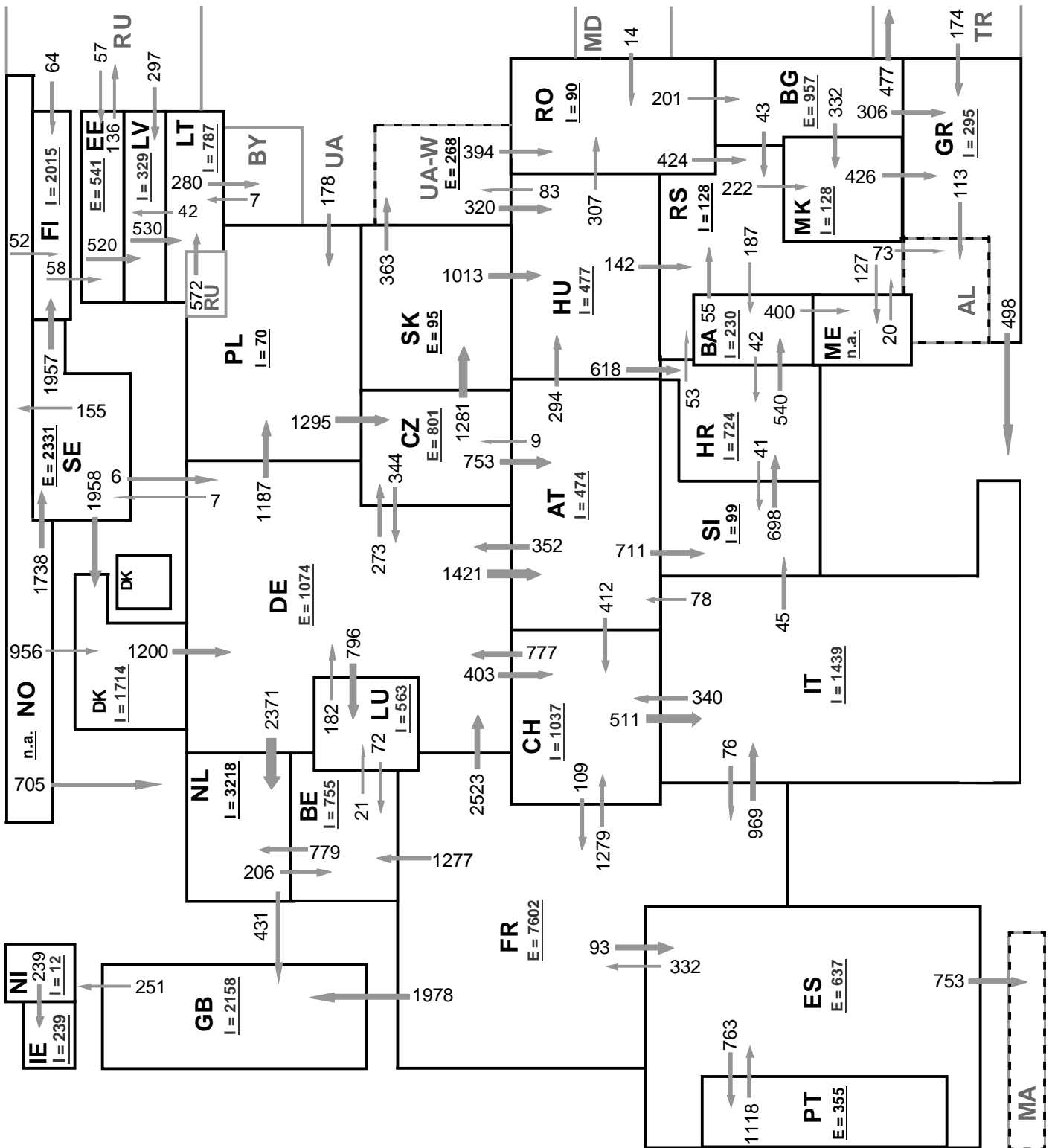
Outside flows countries	Inside flows of the countries																																		
	AT	BA	BE	BG	CH	CZ	DE	DK	EE	ES	FI	FR	GB	GR	HR	HU	IE	IT	LT	LU	LV	ME	MK	NI	NL	NO	PL	PT	RO	RS	SE	SI	SK	Other III ¹	
AT	-	-	-	-	296	3	543	-	-	-	-	-	-	-	-	238	-	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	539	-
BA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	-	-	-	-	-	-	201	-	-	-	-	-	-	-	-	37	-	-	-	
BE	-	-	-	-	-	-	-	-	-	-	-	97	-	-	-	-	-	-	-	44	-	-	-	-	428	-	-	-	-	-	-	-	-	-	
BG	-	-	-	-	-	-	-	-	-	-	-	-	243	-	-	-	-	-	-	-	-	257	-	-	-	-	-	-	6	125	-	-	-	393	
CH	54	-	-	-	-	484	-	-	-	-	492	-	-	-	-	-	-	1205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CZ	814	-	-	-	-	296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1135	-	
DE	966	-	-	-	535	161	-	109	-	-	72	-	-	-	-	-	-	-	433	-	-	-	-	-	-	1852	698	-	-	5	-	-	-	-	
DK	-	-	-	-	-	527	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	15	-	-	-	
EE	-	-	-	-	-	-	-	-	-	-	55	-	-	-	-	-	-	-	-	-	329	-	-	-	-	-	-	-	-	-	-	-	-	134	
ES	-	-	-	-	-	-	-	-	-	-	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	725	-	-	-	-	-	-	509	
FI	-	-	-	-	-	-	-	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	10	-	-	-	-	0	
FR	-	-	631	-	502	-	1270	-	489	-	-	1003	-	-	-	-	-	594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GB	-	-	-	-	-	-	-	-	-	-	66	-	-	-	-	-	-	-	-	-	-	-	-	171	23	-	-	-	-	-	-	-	-	-	
GR	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	222	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	117	
HR	-	308	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	38	-	82	-	-	
HU	14	-	-	-	-	-	-	-	-	-	-	-	-	474	-	-	-	-	-	-	-	-	-	-	-	-	-	107	103	-	-	0	22	-	
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	
IT	10	-	-	-	115	-	-	-	-	-	121	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	-	-	
LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	128	
LU	-	-	70	-	-	76	-	-	-	-	-	-	-	-	-	-	-	-	-	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LV	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
ME	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.a.	
MK	-	-	-	0	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	
NL	-	-	-	-	-	-	-	-	-	-	0	-	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NL	-	-	432	-	-	109	-	-	-	-	-	422	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-
NO	-	-	-	-	-	-	667	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	522	-	-	-	-	-	1226	-	-	n.a.	
PL	-	-	-	-	984	4	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	88	0	-	
PT	-	-	-	-	-	-	-	-	268	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RO	-	-	-	202	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
RS	-	135	-	1	-	-	-	-	-	-	-	-	-	10	5	-	-	-	-	-	-	111	138	-	-	-	-	19	-	-	-	-	22		
SE	-	-	-	-	-	155	1073	-	-	1708	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	213	-	-	-	-	-	-	-	-	
SI	0	-	-	-	-	-	-	-	-	-	-	-	652	-	-	-	158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SK	-	-	-	-	0	-	-	-	-	-	-	-	-	-	1016	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	277	
Other III ¹	-	-	-	0	-	-	-	66	0	111	-	-	106	-	294	-	-	459	-	122	n.a.	-	-	-	n.a.	120	-	255	3	-	-	-	3	-	

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	1858	1676
BA	453	327
BE	1133	569
BG	203	1024
CH	1448	2235
CZ	1148	2246
DE	3464	4831
DK	1849	547
EE	159	518
ES	757	1389
FI	1894	103
FR	1003	4489
GB	1425	260
GR	593	340
HR	1225	428
HU	1560	720
IE	84	15

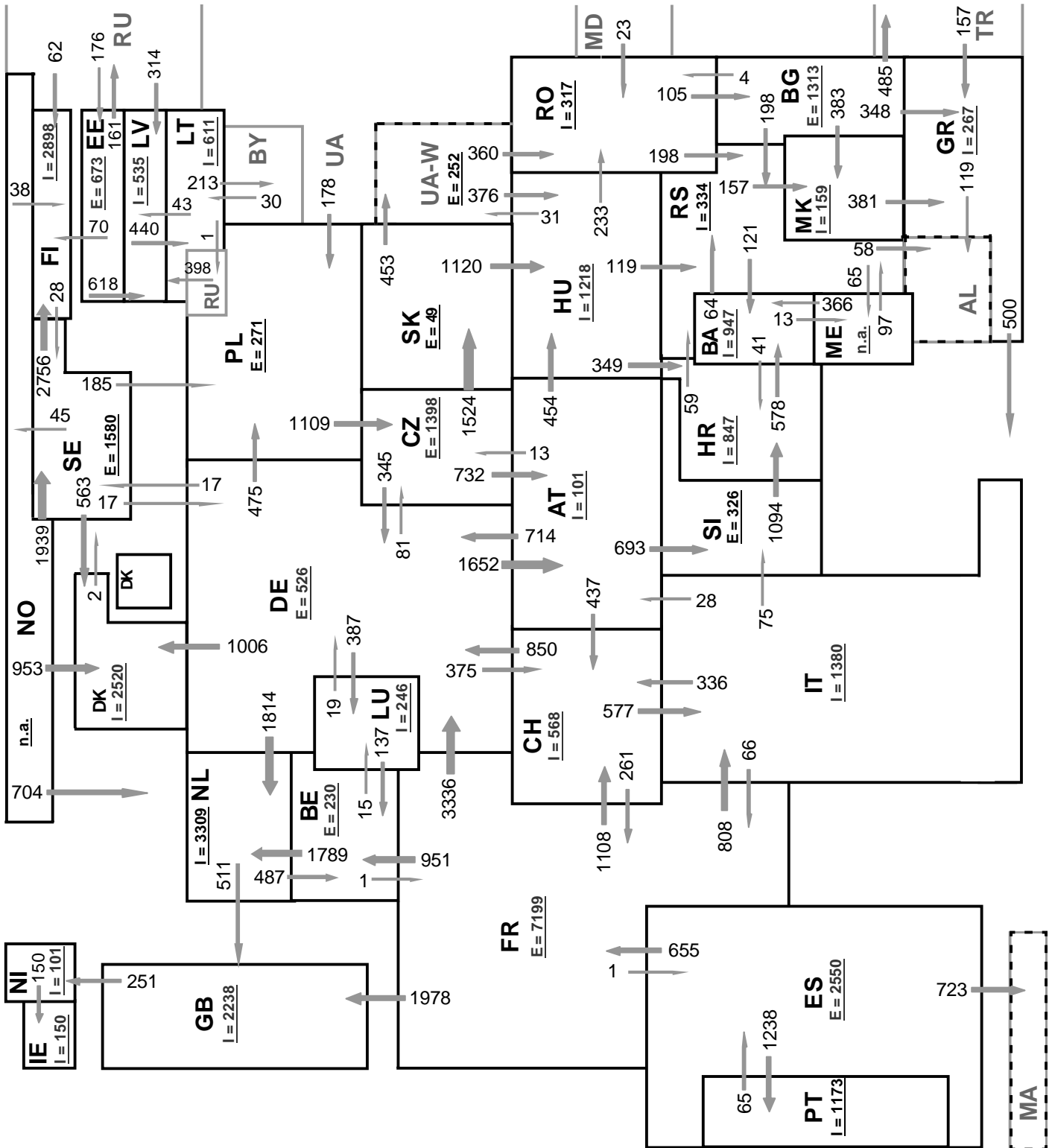
	flows inside	flows outside
IT	2236	309
LT	658	173
LU	477	146
LV	496	199
ME	n.a.	n.a.
MK	396	209
NI	186	84
NL	2825	963
NO	n.a.	n.a.
PL	1032	1076
PT	725	268
RO	387	308
RS	427	441
SE	1256	3188
SI	649	810
SK	1226	1293
ENTSO-E	33588	33651



Sum of load flows in MW **ENTSO-E = 42930 MW** **Total = 47285 MW**
 (Calculated sum without data between ME - AL and NO - RU)

Synchronous operation with ENTSO-E region

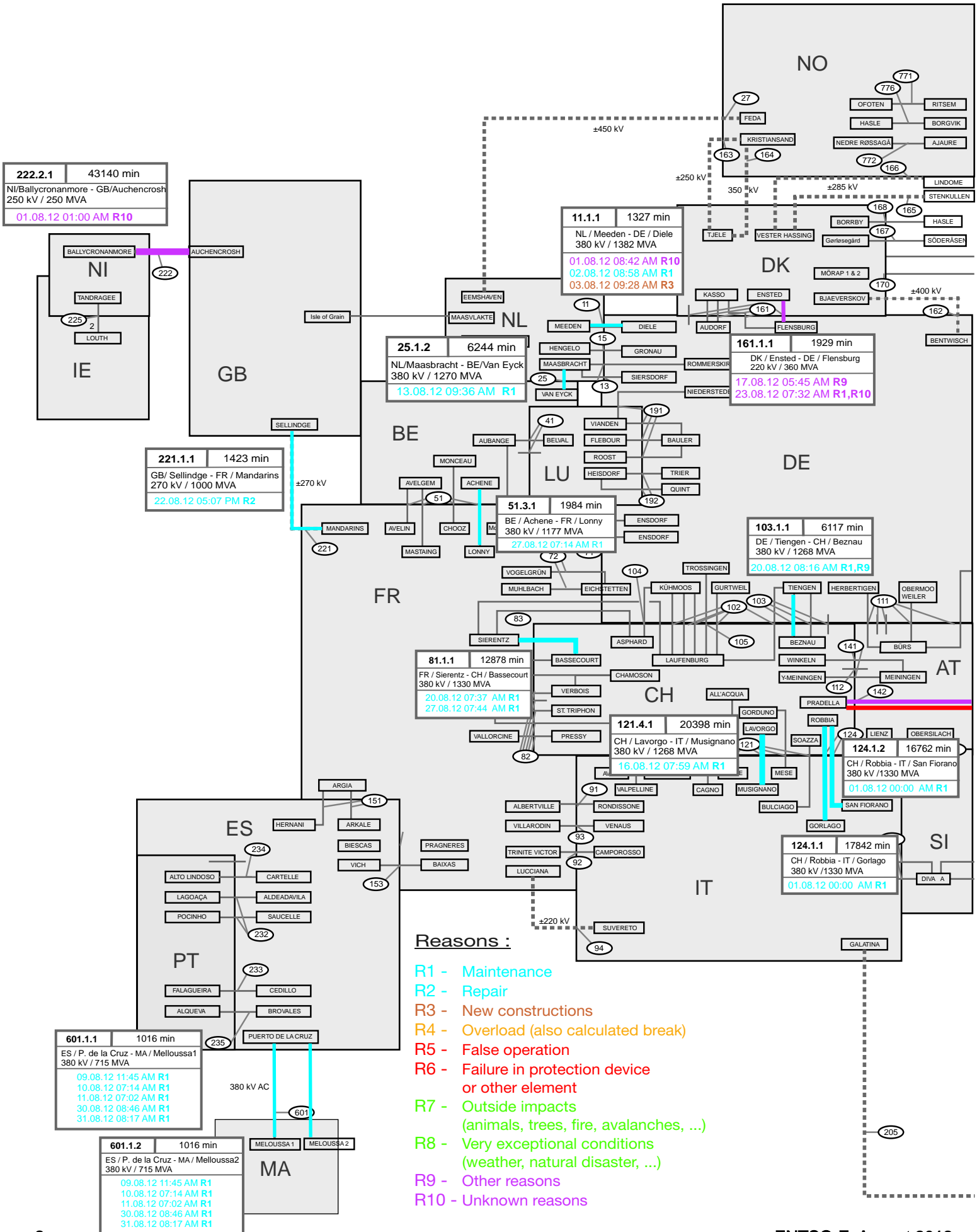
I = Import balance
E = Export balance



Sum of load flows in MW **ENTSO-E = 41897 MW** **Total = 46833 MW**
 (Calculated sum without data between ME - AL and NO - RU)

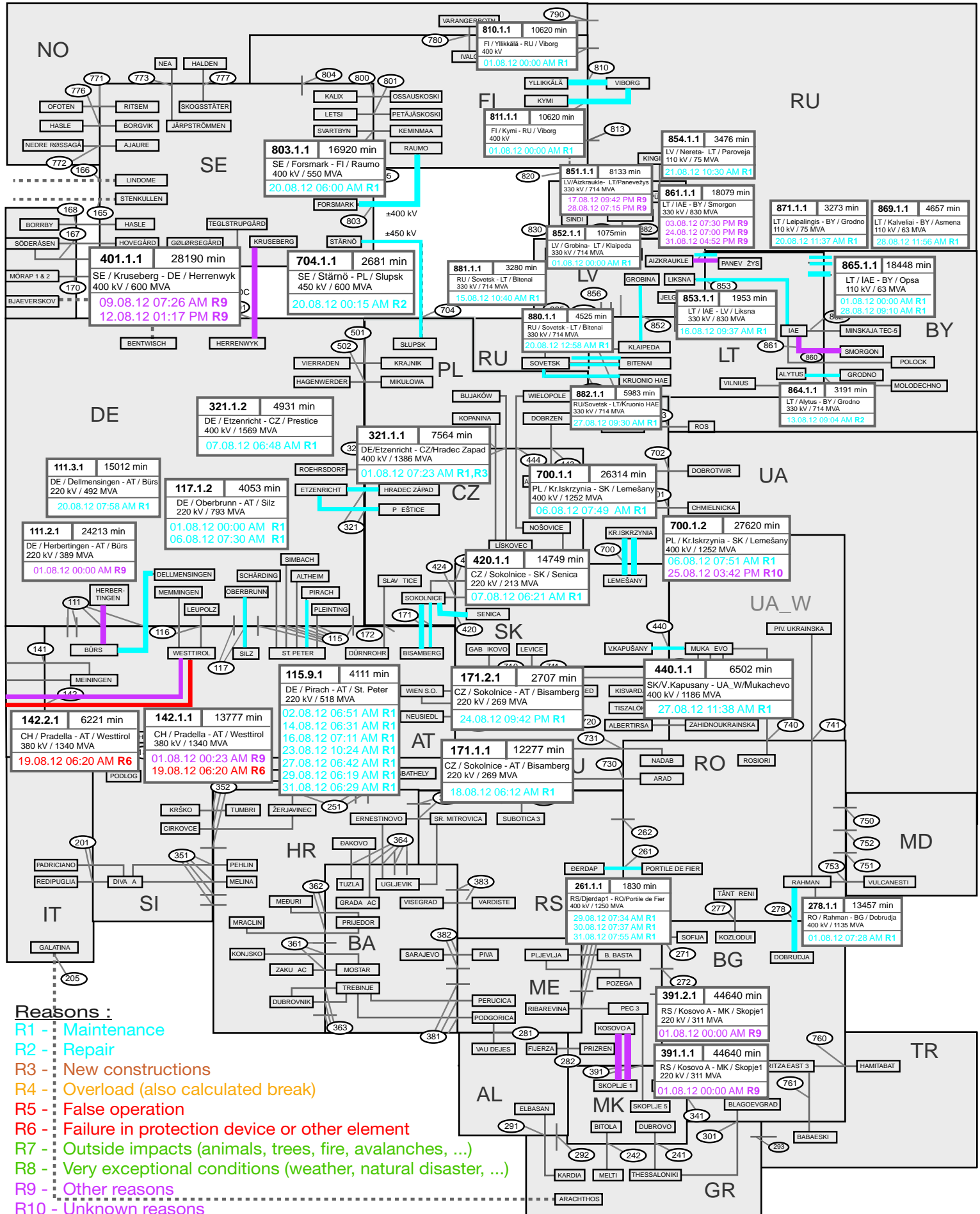
Synchronous operation with ENTSO-E region

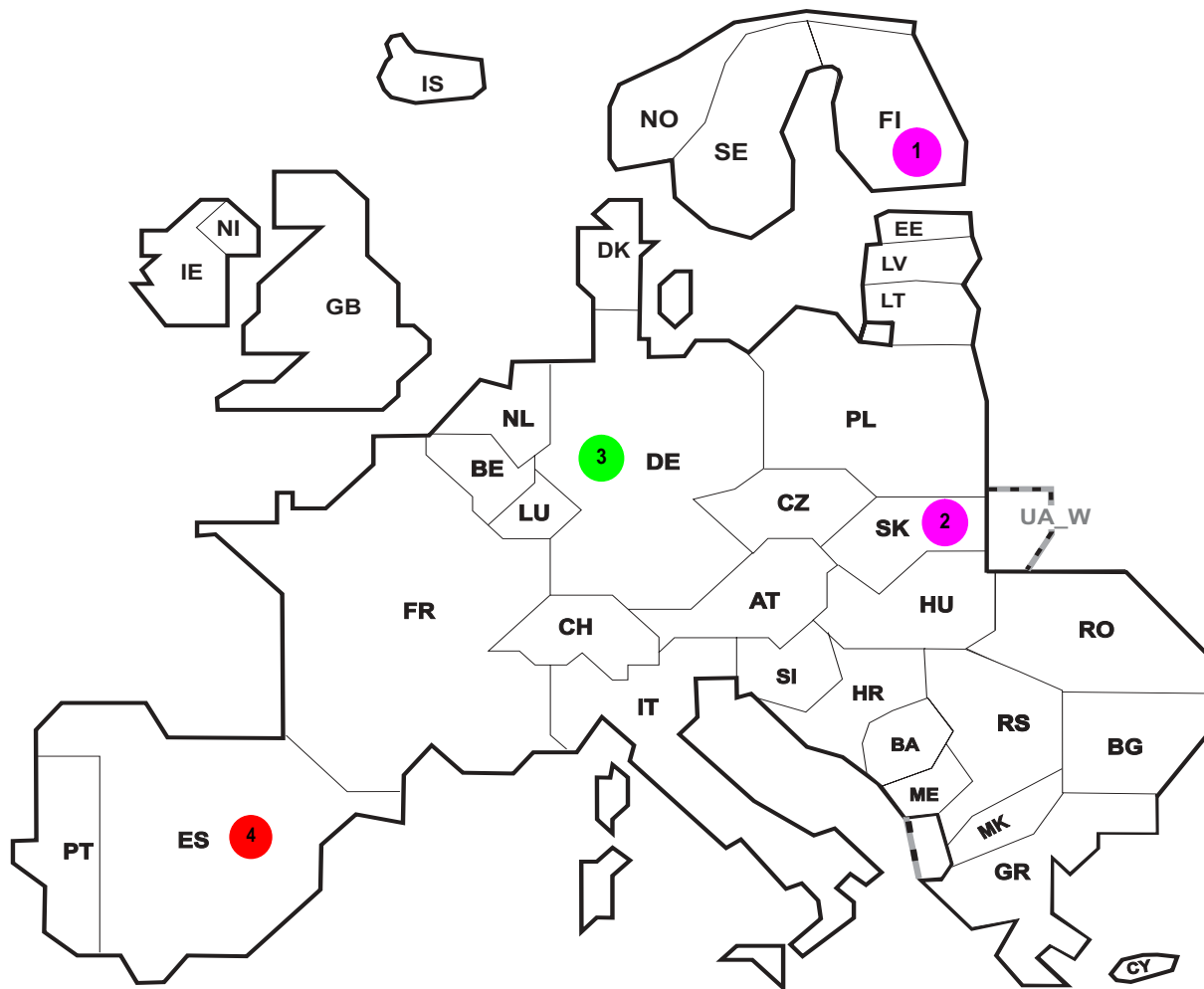
I = Import balance
 E = Export balance



Reasons :

- R1 - Maintenance
- R2 - Repair
- R3 - New constructions
- 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





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	FI	Kristiina	R9	15	102	9	0,095
2	SK	S. N. Ves	R10	3	27	6	0,058
3	DE	Bandstahl	R7	40	42	57	0,039
4	ES	Uninsa	R5	2	140	0	0,005

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 15.08.2012 CET of each country

	Highest		Low est		Load representativity %
	load MW	variation % ¹	load MW	variation % ¹	
AT	5885	-26,3	4332	-5,4	100
BA	1574	-3,4	1009	-1,8	100
BE ²	8634	-19,2	6980	-8,8	100
BG	4178	-8,5	2793	-10,3	99
CH	7743	-7,5	4850	-3,9	100
CY ³	642	14,0	464	-0,2	100
CZ	7429	-3,7	5233	-5,2	100
DE ⁴	68646	-3,6	42187	-3,3	91
DK	4569	-5,0	2743	-0,9	100
EE	980	5,5	582	2,5	100
ES	28817	-19,1	21706	-7,0	98
FI	9379	-2,6	7191	-3,2	100
FR	44480	-12,4	33094	-6,6	100
GB	40935	-0,3	23973	-1,1	92
GR	6496	-15,3	4604	-9,3	100
HR	2156	n.a.	1400	-13,0	100
HU	4804	-3,0	3183	-1,5	100
IE	3520	2,7	1860	-1,6	100
IS	1967	0,9	1809	-0,2	100
IT	33456	-10,4	24025	-3,9	100
LT	1202	-11,6	822	-2,8	100
LU	595	-22,0	481	-14,6	100
LV	940	7,6	510	3,0	100
ME ⁵	616	n.a.	378	n.a.	100
MK	927	-15,3	617	-9,9	100
NI	1240	-1,5	633	1,9	100
NL	15083	1,6	9402	-1,1	100
NO	12216	-3,1	9627	-2,2	100
PL ⁶	14634	-20,9	11011	-13,9	100
PT	5421	-13,1	3763	-10,0	100
RO	5806	-15,1	4413	-11,2	100
RS	4355	-7,2	2668	-2,6	100
SE	15218	-3,4	10762	-5,2	100
SI	1328	-21,4	1074	-0,6	100
SK	3379	-0,3	2559	2,7	100
ENTSO-E	358063	n.a.	258951	n.a.	

¹ Variation as compared to corresponding month of the previous year

² The reported figures are best estimates based on actual measurements and extrapolations.

³ Only highest and lowest load value available.

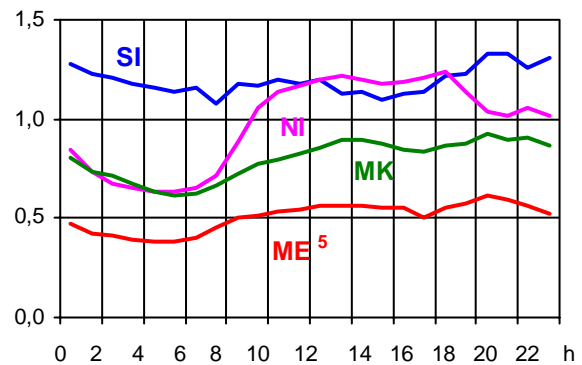
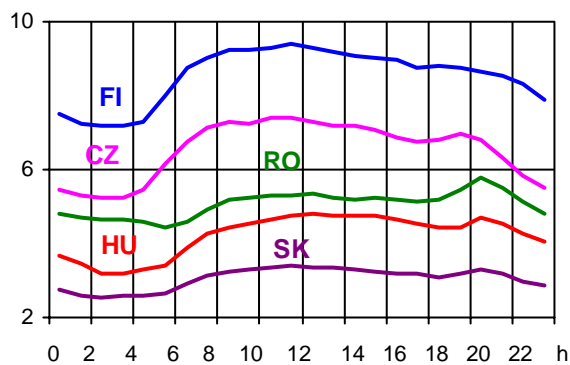
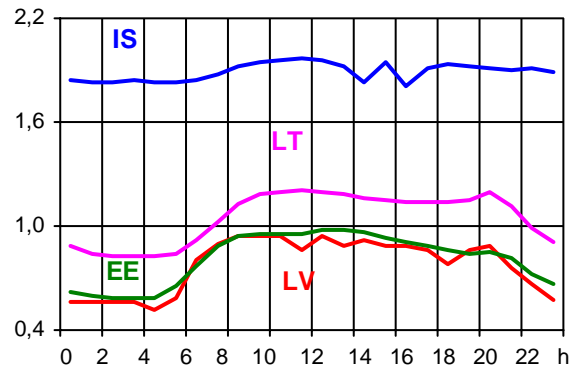
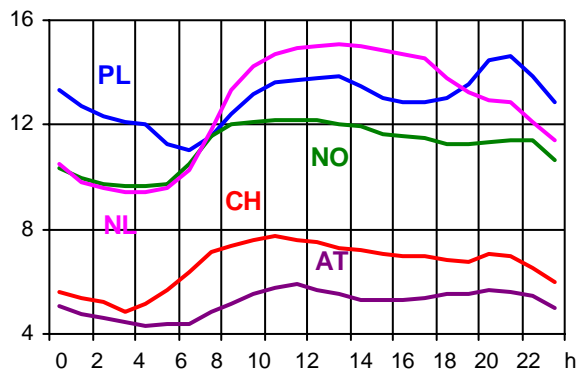
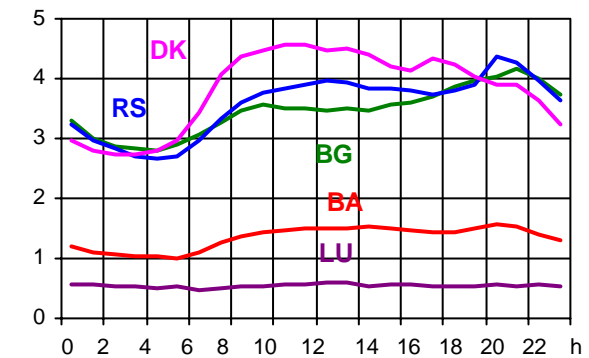
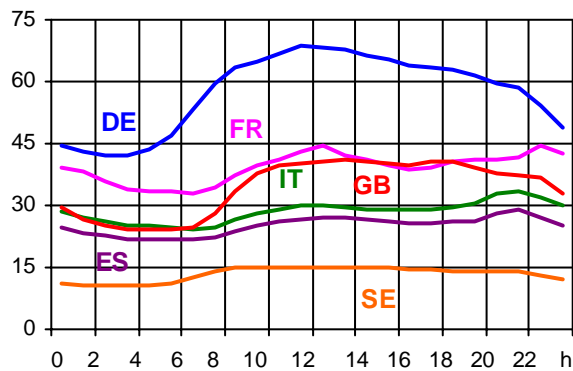
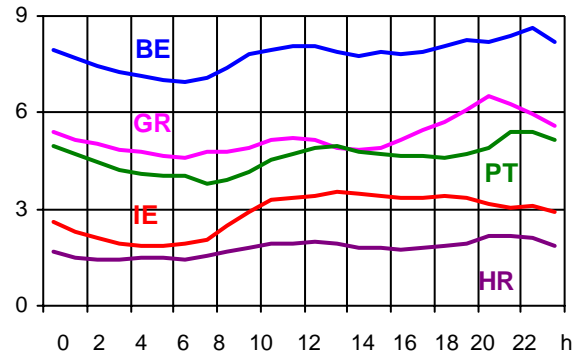
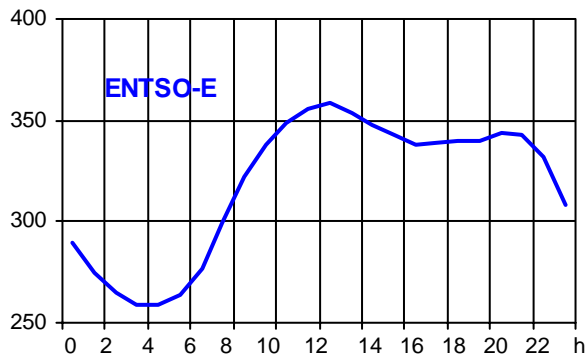
⁴ A comparison with previous figures may be limited for statistical reasons related to renewable energies feed-in like direct marketing.

⁵ Monthly load values as of 17 August 2011

⁶ Operational data

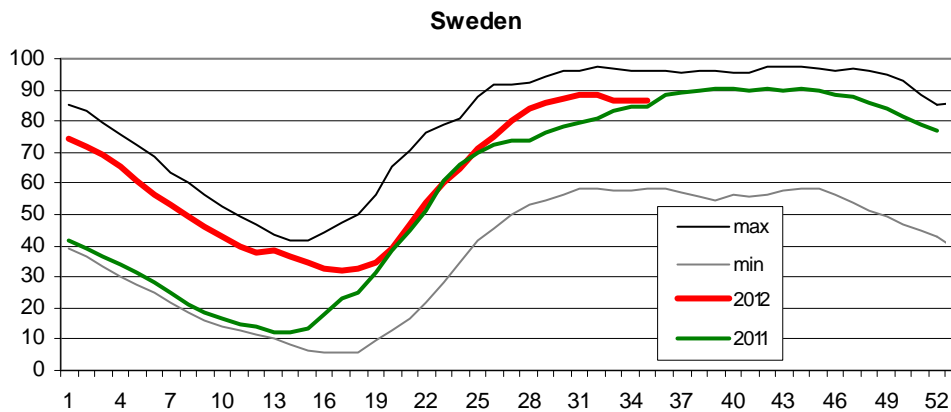
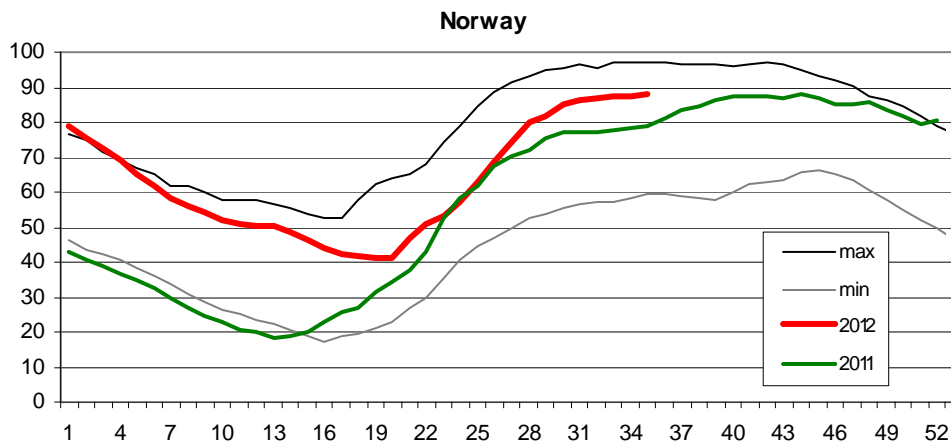
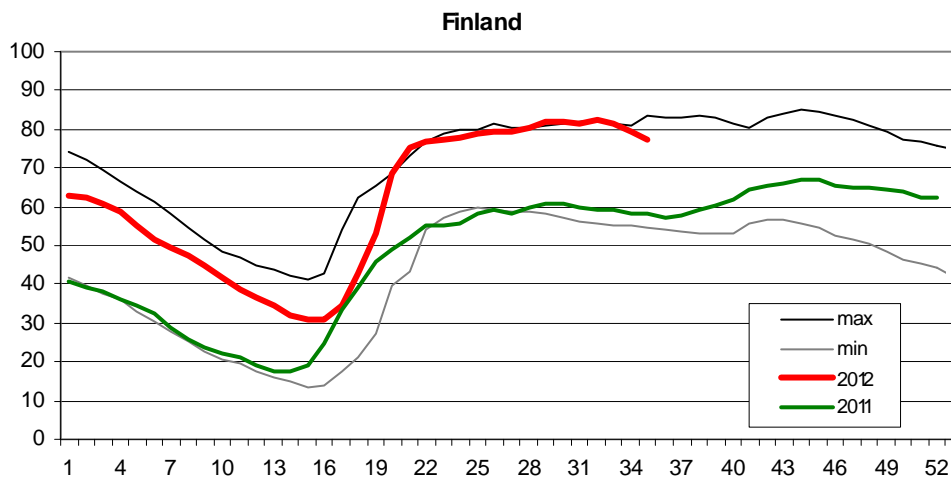
Consumption hourly load curves on 15.08.2012 CET

Values in GW



11

Water reservoirs Nordic



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

Contact

Avenue de Cortenbergh, 100
B-1000 Brussels – Belgium
Tel + 32 2 741 0950
Fax + 32 2 741 0951

info@entsoe.eu
www.entsoe.eu

