

# Monthly report



## June 2011

Monthly provisional values as of 14 October 2011

European Network of  
Transmission System Operators  
for Electricity



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#### **General remarks and abbreviations used in the tables**

- All values of production and consumption on page 2, 11 and 12 are calculated to represent 100% of the national values.
- UA\_W Ukraine West represents the so-called Burshtyn Island synchronously interconnected with ENTSO-E
- 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	1162	3643	0	0	0	843	5648	-36	419	5193	-1,3
BA	0	782	241	0	0	0	0	1023	-115	0	908	3,8
BE <sup>2</sup>	3761	2384	60	524	151	93	0	6729 <sup>1</sup>	99	75	6753	-1,8
BG	1371	1640	288	39	39	0	0	3338	-924	89	2325	15,0
CH	1561	153	3392	104	5	0	0	5210 <sup>1</sup>	-86	332	4792	-3,1
CY	0	426	0	10	10	0	0	436	0	0	436	-2,7
CZ	1965	3563	158	292	30	264	0	5978 <sup>1</sup>	-1246	47	4685	0,0
DE	6368	26947	1653	6853	2547	2366	0	41821 <sup>1</sup>	1791	582	43030	-3,8
DK	0	1337	1	680	502	0	0	2018 <sup>1</sup>	535	0	2553	-3,8
EE	0	812	2	82	18	0	0	896	-381	0	515	2,0
ES	4703	10548	2139	4531	2863	1082	26	21947	-400	161	21386	2,3
FI	1704	1065	999	638	29	0	47	4453 <sup>1</sup>	1234	0	5687	-1,9
FR	32598	1970	4327	1485	871	191	0	40380	-6049	544	33787	-2,3
GB	5784	17115	508	908	436	0	0	24315	559	300	24575	-2,6
GR	0	3201	452	215	134	58	0	3868 <sup>1</sup>	380	13	4235	-7,3
HR	0	337	323	15	14	0	0	675	670	15	1330	-1,0
HU	1311	1549	0	0	0	0	0	2860	553	0	3413	9,4
IE	0	1598	27	242	242	0	14	1881 <sup>1</sup>	101	0	1982	-0,4
IS	0	1	1012	312	0	0	0	1325	0	0	1325	0,2
IT	0	16079	6156	1782	618	723	0	24017	3349	155	27211	-0,1
LT	0	190	61	42	28	0	0	293 <sup>1</sup>	538	50	781	5,8
LU	0	230	1	17	5	0	0	248	294	0	542	4,6
LV	0	116	148	11	4	0	0	275	222	0	497	-0,6
ME <sup>3</sup>	0	101	193	0	0	0	0	294	4	0	298	n.a.
MK	0	269	132	0	0	0	0	401	178	0	579	-2,4
NI	0	0	0	43	38	0	0	43	138	0	181	-73,5
NL	337	6544	0	632	320	n.a.	0	7513	1512	0	9025	0,5
NO	0	277	8929	55	55	0	0	9261 <sup>1</sup>	-1006	425	7830	-3,9
PL <sup>5</sup>	0	11147	198	207	181	0	0	11552 <sup>1</sup>	-285	51	11216	3,4
PT	0	2199	579	906	667	29	0	3684 <sup>1</sup>	330	43	3971	-0,9
RO	896	2105	1190	107	93	0	0	4298	-106	20	4172	3,0
RS	0	2291	755	0	0	0	0	3046	294	87	3253	6,9
SE	3747	141	5167	997	335	0	0	10052 <sup>1</sup>	-634	0	9418	-2,4
SI	495	235	452	0	0	0	0	1182	-124	0	1058	7,2
SK	1179	398	309	74	0	30	59	2019 <sup>1</sup>	43	41	2021	-0,3
<b>ENTSO-E</b>	<b>67780</b>	<b>118912</b>	<b>43495</b>	<b>21803</b>	<b>10235</b>	<b>4836</b>	<b>989</b>	<b>252979<sup>1</sup></b>	<b>1432</b>	<b>3449</b>	<b>250963</b>	<b>n.a.</b>
UA_W	0	606	7	0	0	0	0	613	-291	0	322	14,2

<sup>1</sup> Including deliveries from industry

<sup>2</sup> The reported figures are best estimates based on actual measurements and extrapolations.

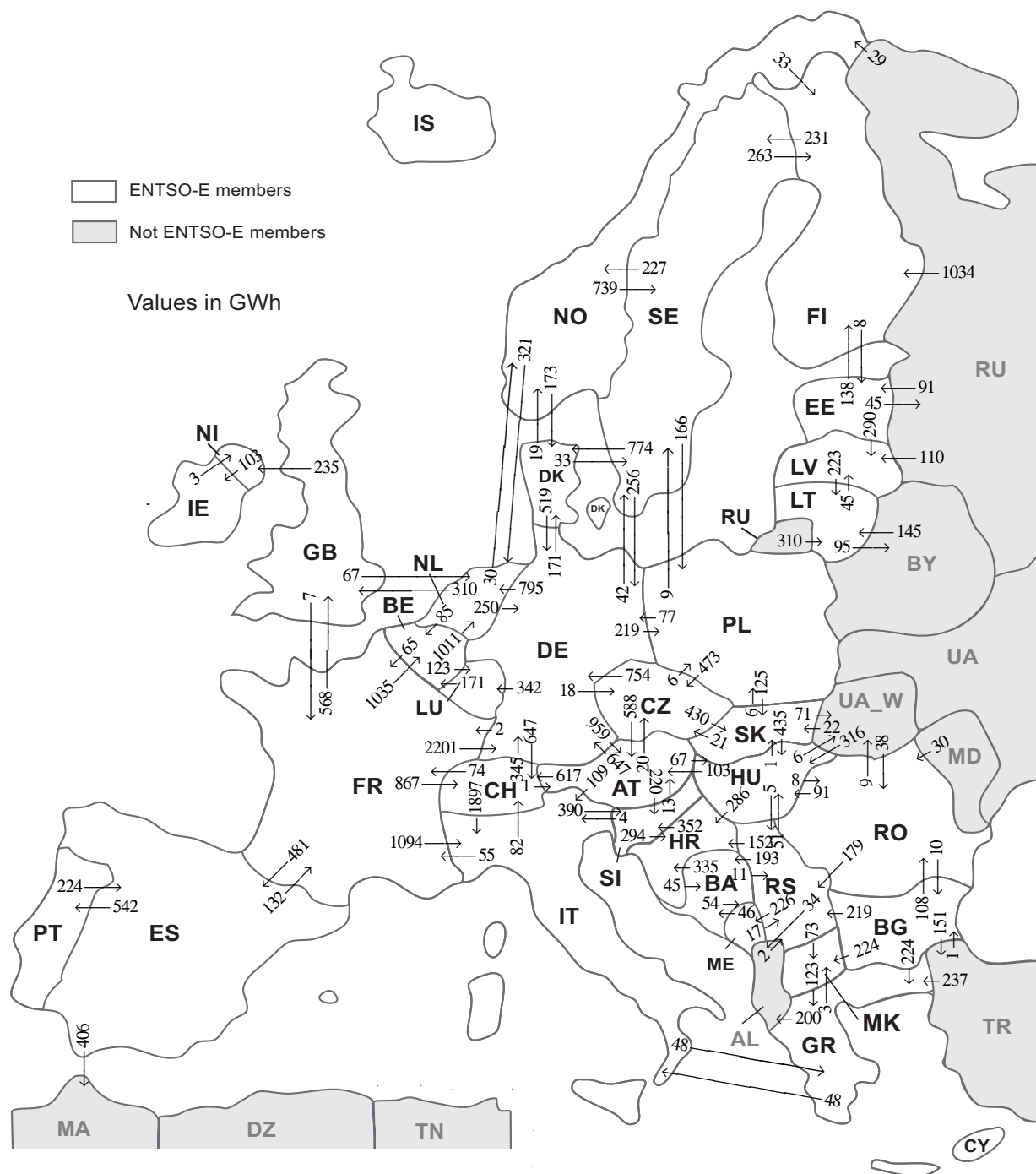
<sup>3</sup> Production of renewables are all estimated.

<sup>4</sup> National monthly values as of June 2010

<sup>5</sup> Operational data

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 prod	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	97	100	95	100	98
FI	100	100	100	100	100	100
FR	100	100	100	100	100	100
GB	100	97	89	48	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
UA_W	100	100	100	100	100	100



Sum of physical energy flows between ENTSO-E countries: **28253GWh**

Total physical energy flows: **31635GWh**

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 ( $\leq 110$  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.

# 4

## Overview of the detailed physical energy flows in GWh

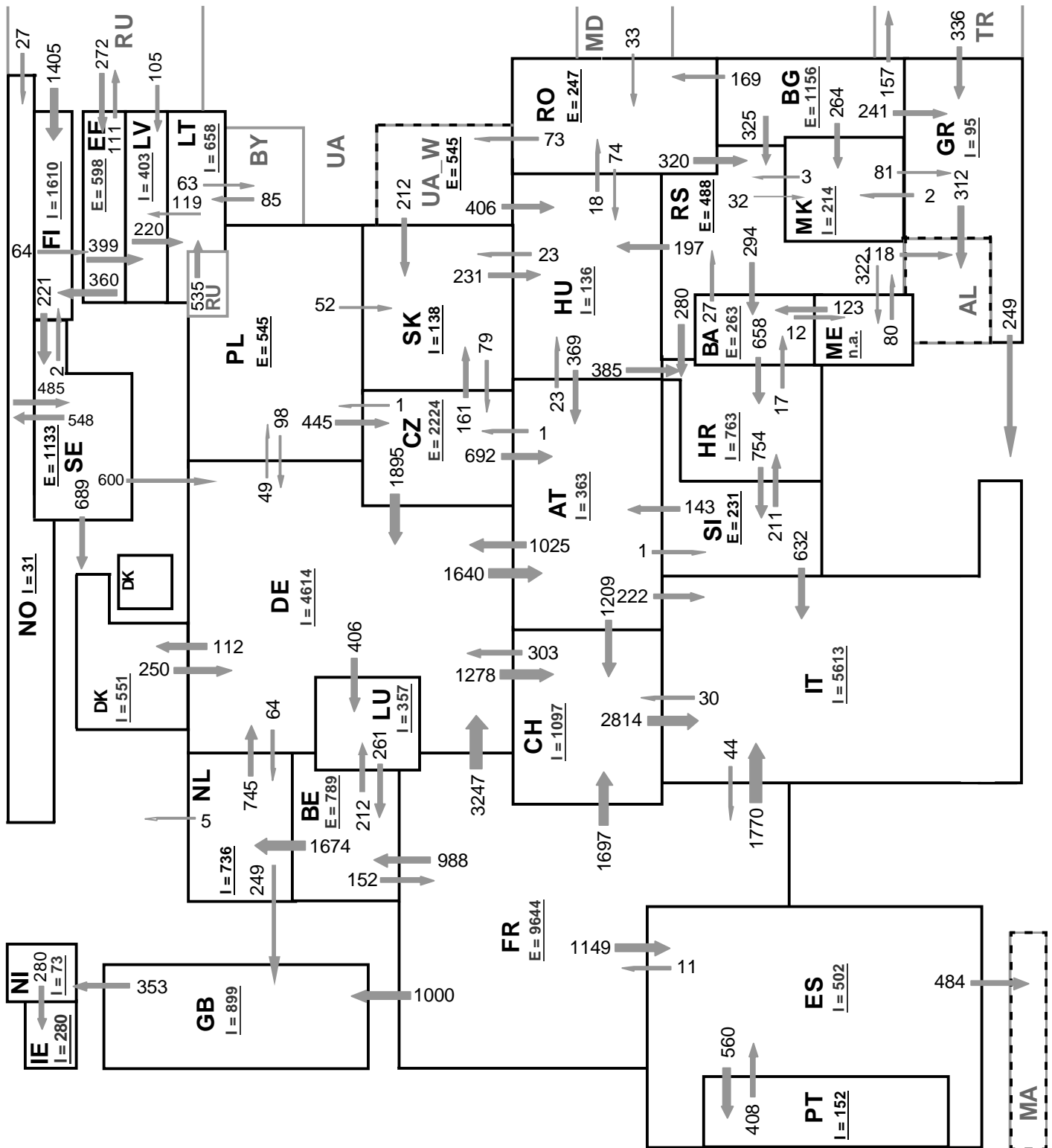
June 2011

Outside flows	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	UA_W	Other III <sup>1</sup>					
AT	-	-	-	-	617	20	647	-	-	-	-	-	-	-	-	67	-	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	220	-	-			
BA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	335	-	-	-	-	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BE	-	-	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-	123	-	-	-	-	1011	-	-	-	-	-	-	-	-	-	-	-	-			
BG	-	-	-	-	-	-	-	-	-	-	-	-	224	-	-	-	-	-	-	-	-	224	-	-	-	-	-	108	219	-	-	-	-	-	-	-	-	151		
CH	1	-	-	-	-	-	345	-	-	-	-	74	-	-	-	-	-	1897	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
CZ	588	-	-	-	-	-	754	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	430	-	-			
DE	959	-	-	-	647	18	-	171	-	-	-	2	-	-	-	-	-	-	-	342	-	-	-	-	795	219	-	-	-	-	42	-	-	-	-	-	-			
DK	-	-	-	-	-	-	519	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	33	-	-	-	-	-			
EE	-	-	-	-	-	-	-	-	-	-	138	-	-	-	-	-	-	-	-	-	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45		
ES	-	-	-	-	-	-	-	-	-	-	-	132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	542	-	-	-	-	-	-	-	-	-	-	406		
FI	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	231	-	-	-	-	-	0		
FR	-	-	1035	-	867	-	2201	-	-	481	-	-	568	-	-	-	-	1094	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
GB	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	235	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GR	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	3	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-	200	
HR	-	-	45	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	352	-	-	-	-	-		
HU	103	-	-	-	-	-	-	-	-	-	-	-	-	-	286	-	-	-	-	-	-	-	-	-	-	-	8	5	-	-	-	-	1	6	-	-	-			
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IT	0	-	-	-	82	-	-	-	-	-	-	55	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	390	-	-	-	-		
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LU	-	-	171	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
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MK	-	-	-	0	-	-	-	-	-	-	-	-	123	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NI	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NL	-	-	85	-	-	-	250	-	-	-	-	310	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	
NO	-	-	-	-	-	-	-	173	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	321	-	-	-	-	-	-	-	-	-	-	-	-	0	
PL	-	-	-	-	473	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PT	-	-	-	-	-	-	-	-	-	224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RO	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RS	-	193	-	0	-	-	-	-	-	-	-	-	-	-	152	51	-	-	-	-	-	226	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	
SE	-	-	-	-	-	-	256	774	-	-	263	-	-	-	-	-	-	-	-	-	-	-	-	-	-	227	166	-	-	-	-	-	-	-	-	-	-	-	-	-
SI	13	-	-	-	-	-	-	-	-	-	-	-	-	-	294	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SK	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	435	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	71	-
UA_W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other III <sup>1</sup>	-	-	-	1	-	-	-	-	91	0	1034	-	-	237	-	-	-	-	455	-	110	n.a.	-	-	-	29	0	-	30	2	-	-	-	-	-	-	-	-	-	

Other III<sup>1</sup>: Albania, Belarus, Morocco, Republic of Moldavia, Republic of Turkey, Russia and Ukraine

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

	flows inside	flows outside		flows inside	flows outside
AT	1664	1680	IT	3152	575
BA	284	400	LT	678	140
BE	1291	1199	LU	465	171
BG	11	926	LV	445	223
CH	2213	2317	ME	280	63
CZ	532	1778	MK	300	125
DE	5049	3195	NI	238	103
DK	1118	571	NL	2194	675
EE	99	473	NO	305	1266
ES	705	1080	PL	397	684
FI	1468	239	PT	542	224
FR	335	6246	RO	184	289
GB	878	309	RS	435	729
GR	632	251	SE	1054	1686
HR	1067	397	SI	962	311
HU	960	409	SK	578	533
IE	103	3	UA_W	86	376



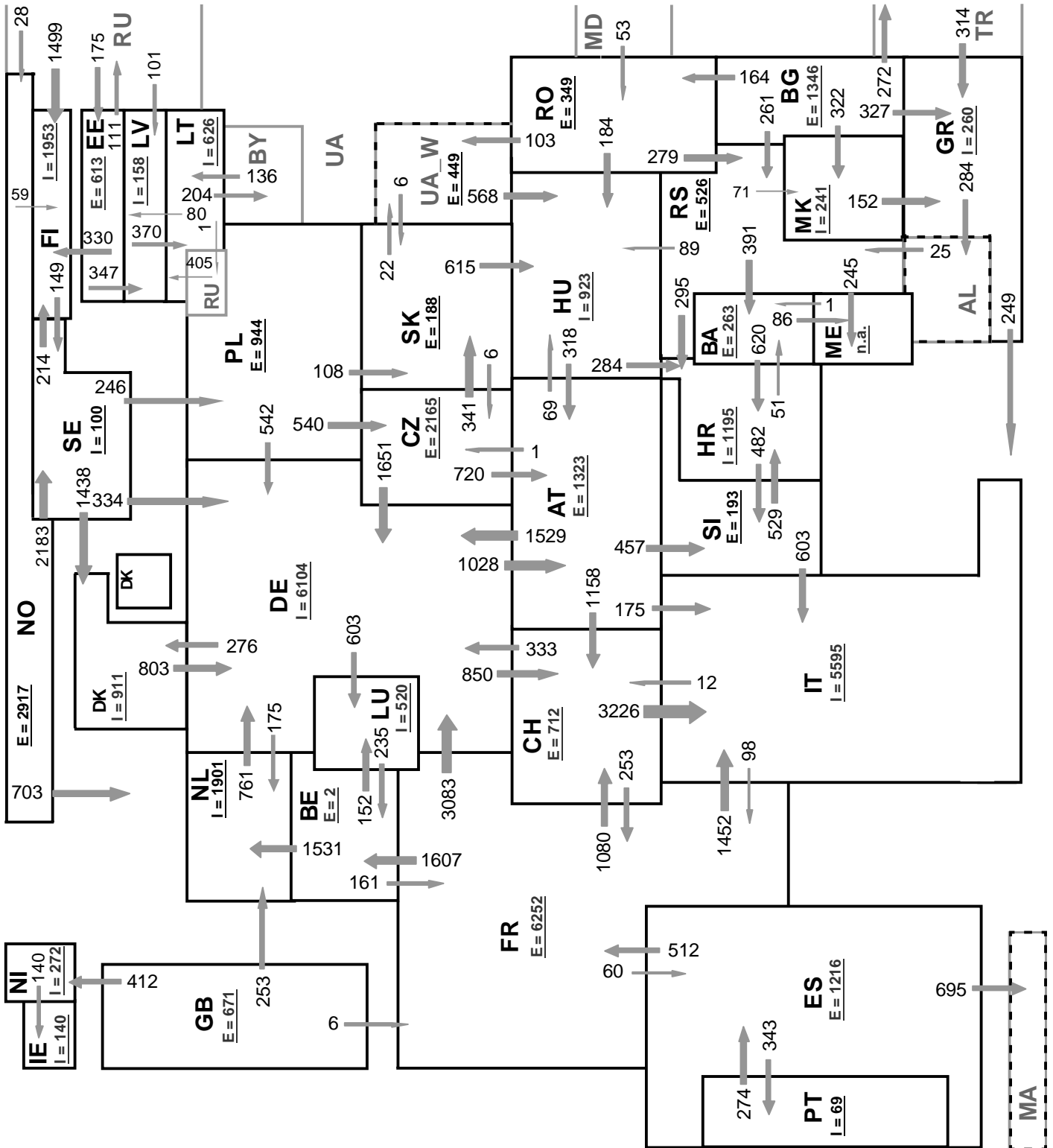
Sum of load flows in MW

ENTSO-E = 37901 MW

Total = 42635 MW

Synchronous operation with ENTSO-E region

I = Import balance  
E = Export balance



Sum of load flows in MW

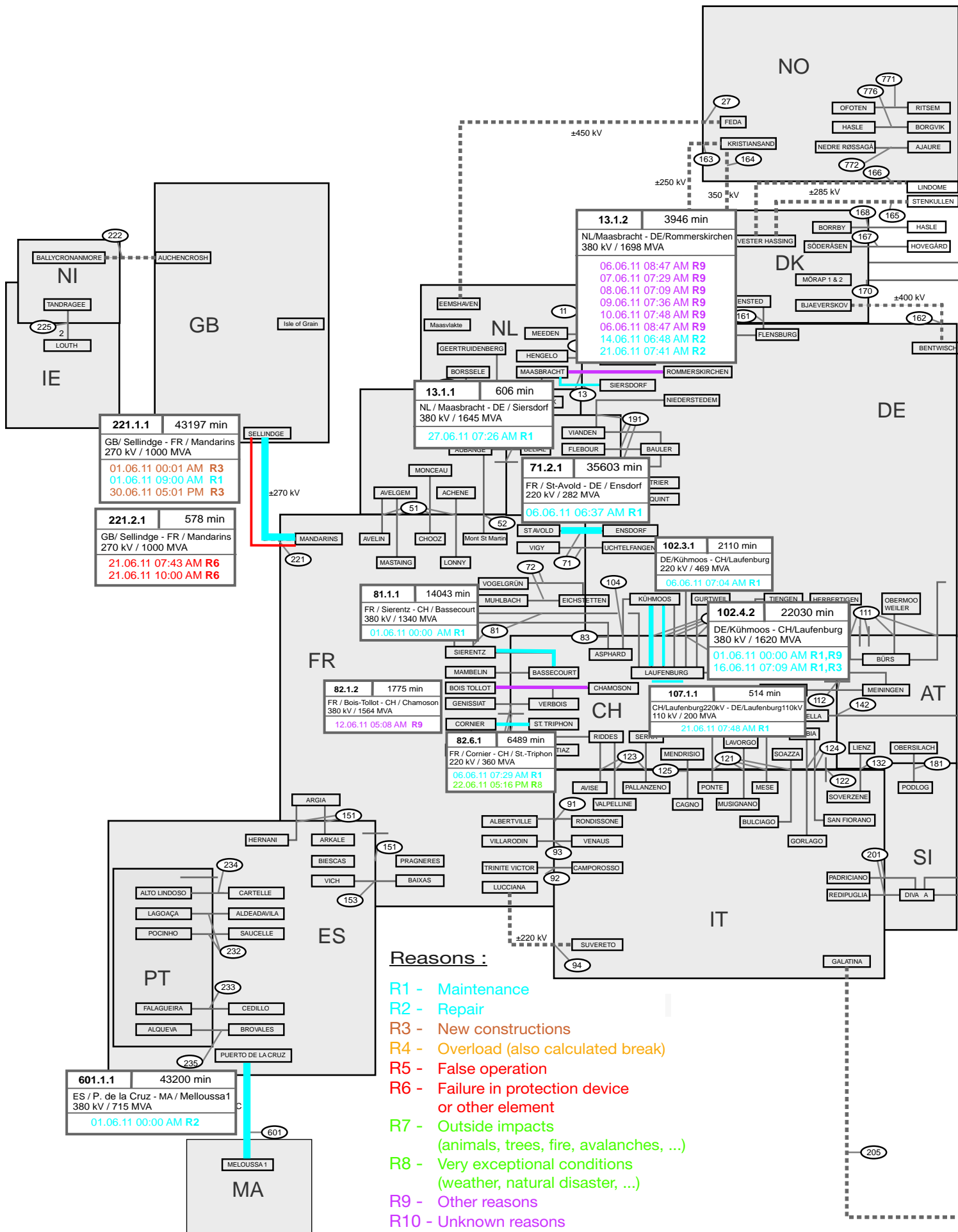
ENTSO-E = 39740 MW

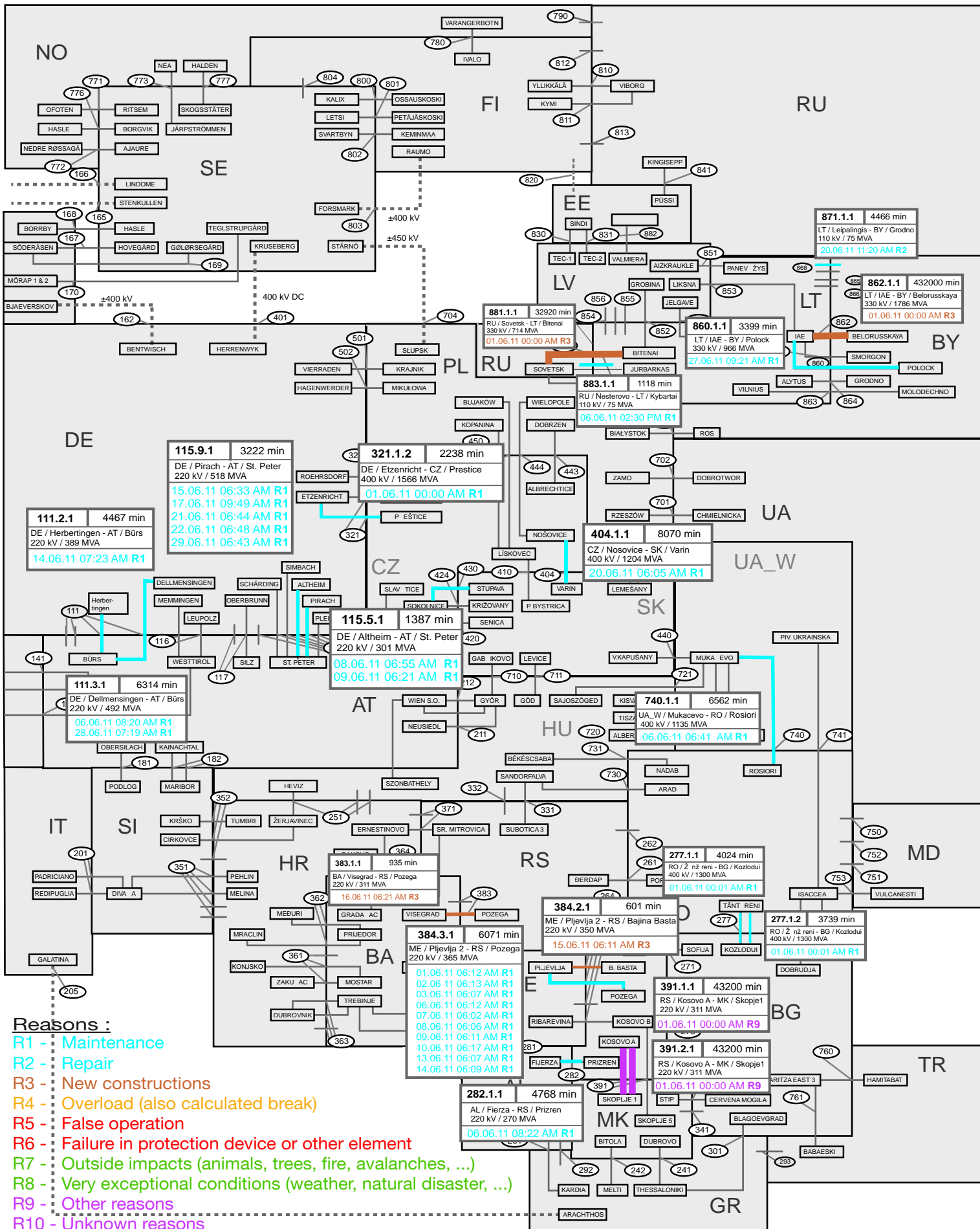
Total = 45089 MW

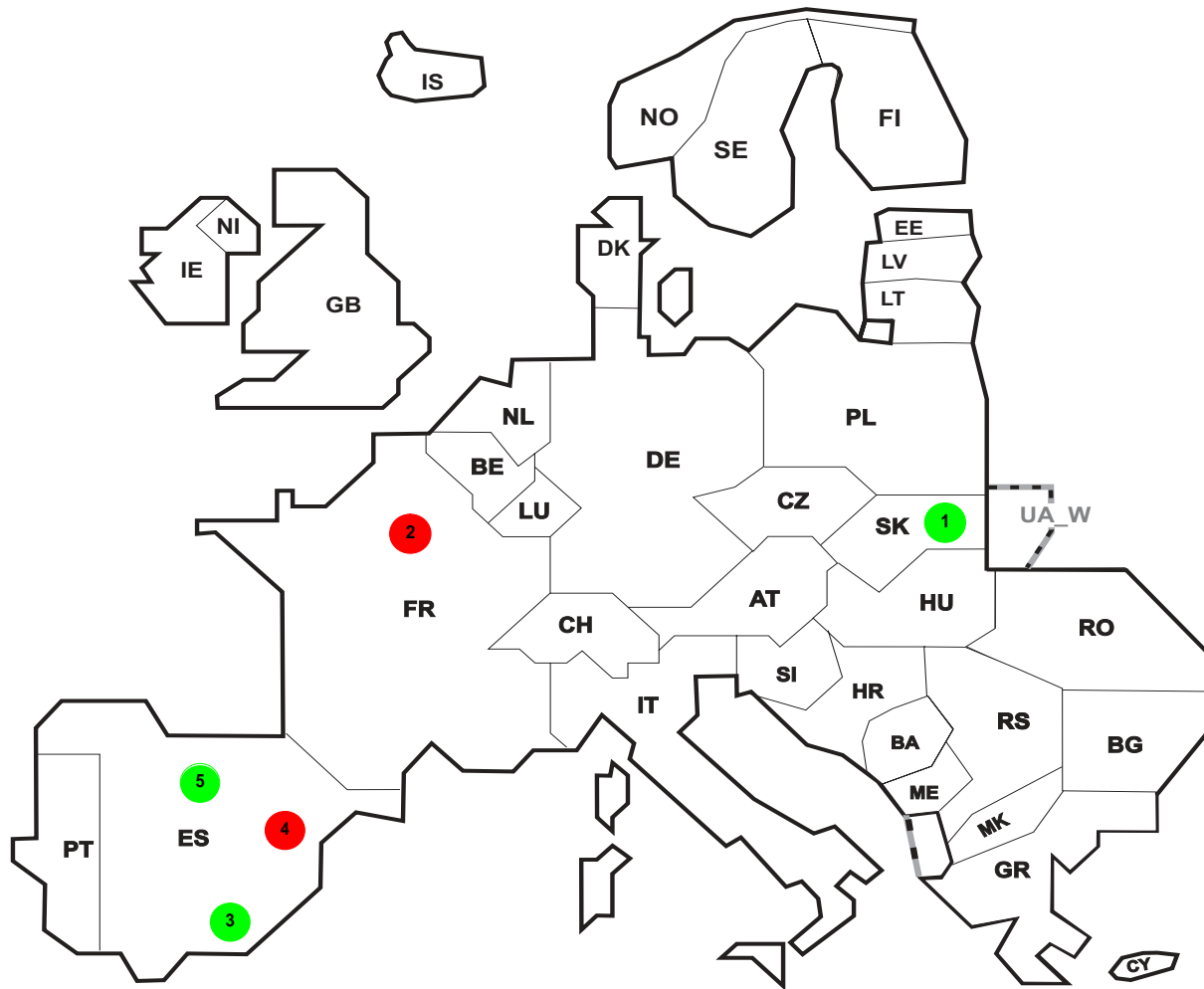
Synchronous operation with ENTSO-E region

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 <sup>1</sup>
1	SK	R. Sobota	R7	12	88	8	0,235
2	FR	FOSES	R6	64	63	61	0,067
3	ES	Rioja	R8	31	137	1337	0,060
4	ES	Viladecans	R5	5	36	8	0,009
5	ES	Albarellos	R8	0	2	2	0,000

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

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

## Highest and lowest load on the 15.06.2011 CET of each country

	Highest		Lowest		Load representativity %
	load MW	variation % <sup>1</sup>	load MW	variation % <sup>1</sup>	
AT	8053	-1,0	4746	3,0	100
BA	1552	1,8	949	0,9	100
BE <sup>2</sup>	11273	-0,7	7783	-3,1	100
BG	4338	0,9	3039	-0,2	100
CH	8723	-2,1	5305	3,8	100
CY <sup>3</sup>	770	-7,0	403	-6,3	100
CZ	7840	4,1	5651	3,3	100
DE	76238	9,2	49670	5,4	91
DK	4595	-1,8	2614	-3,8	100
EE	954	2,9	563	7,4	100
ES	37282	8,8	24098	5,0	98
FI	9476	-1,3	7130	-4,7	100
FR	56924	-0,4	39595	0,9	100
GB	40173	-2,3	23137	-2,9	100
GR	6450	-33,7	4166	-24,4	100
HR	2256	-5,0	1481	4,2	100
HU	5081	-0,5	3371	-4,8	100
IE	3444	-0,8	1793	-6,0	100
IS	1904	-3,5	1801	0,6	100
IT	43773	-10,2	29679	-3,6	100
LT	1338	4,9	810	7,9	100
LU	926	-0,1	628	-8,1	100
LV	823	-5,1	415	-8,8	100
ME <sup>4</sup>	509	n.a.	324	n.a.	100
MK	972	-8,1	624	6,3	100
NI	1260	1,3	661	5,8	100
NL	15606	4,2	9575	4,9	100
NO	12495	-5,4	9691	-5,3	100
PL <sup>5</sup>	18622	5,5	12713	5,6	100
PT	6915	-1,4	4489	1,9	100
RO	6548	-3,4	4769	-4,7	100
RS	4733	1,5	2612	-8,2	100
SE	15884	0,0	11219	-2,0	100
SI	1720	5,5	1250	0,4	100
SK	3288	-2,9	2624	1,9	100
<b>ENTSO-E</b>	<b>419288</b>	<b>n.a.</b>	<b>281938</b>	<b>n.a.</b>	
UA_W	690	18,8	431	21,8	100

<sup>1</sup> Variation as compared to corresponding month of the previous year

<sup>2</sup> The reported figures are best estimates based on actual measurements and extrapolations

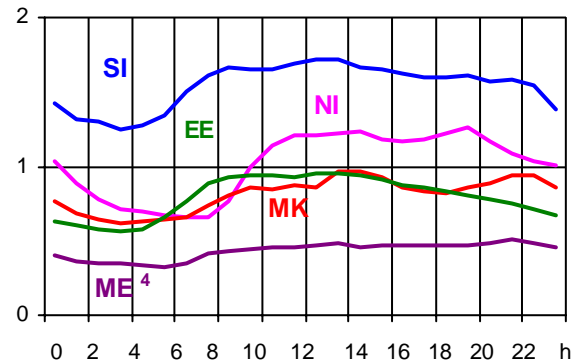
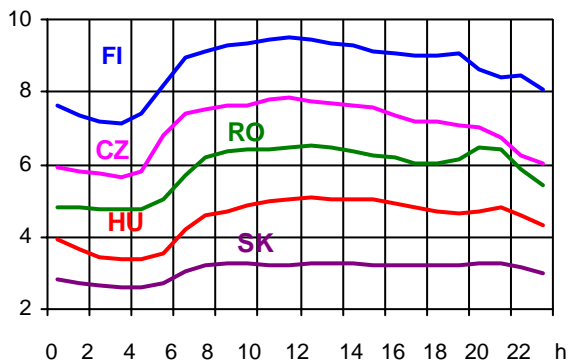
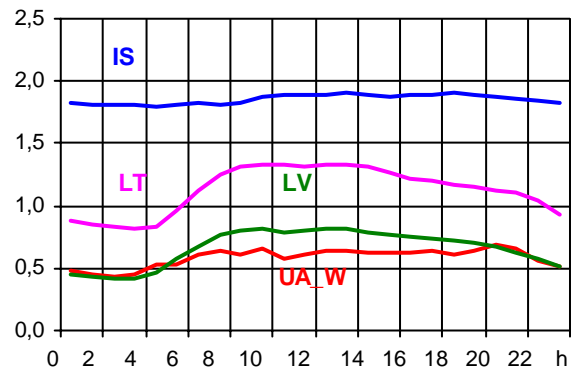
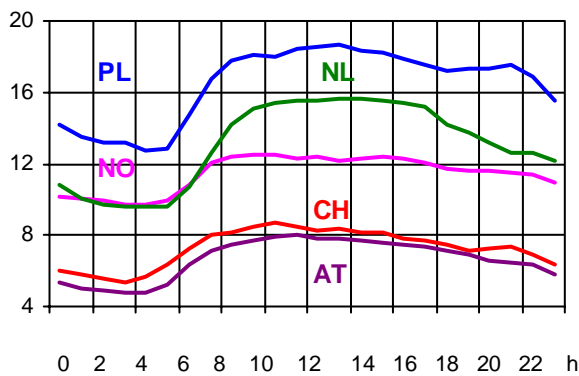
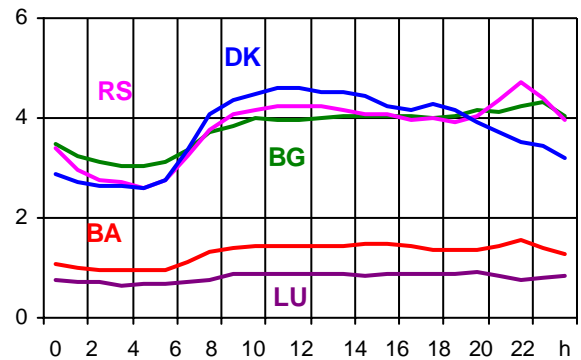
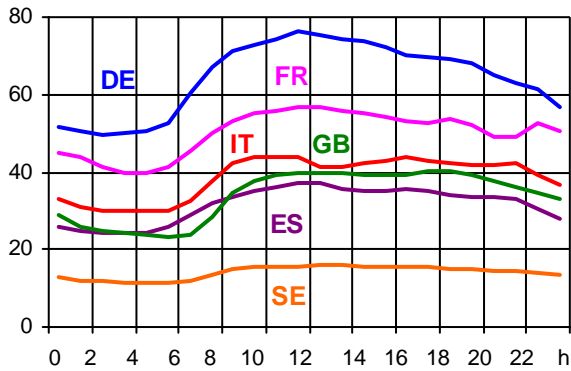
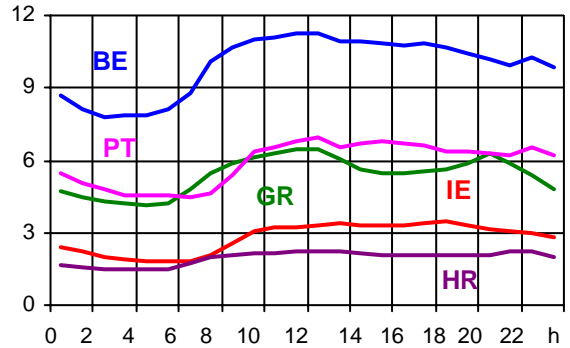
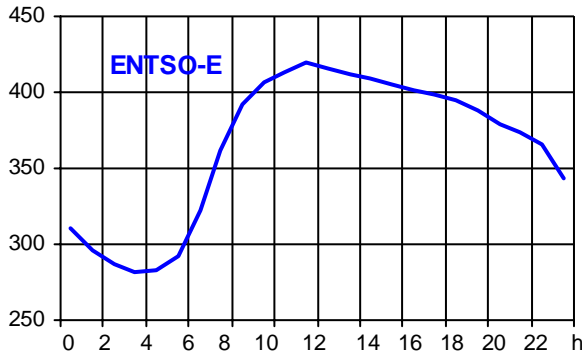
<sup>3</sup> Only highest and lowest load value available

<sup>4</sup> Monthly load values as of 16 June 2010

<sup>5</sup> Operational data

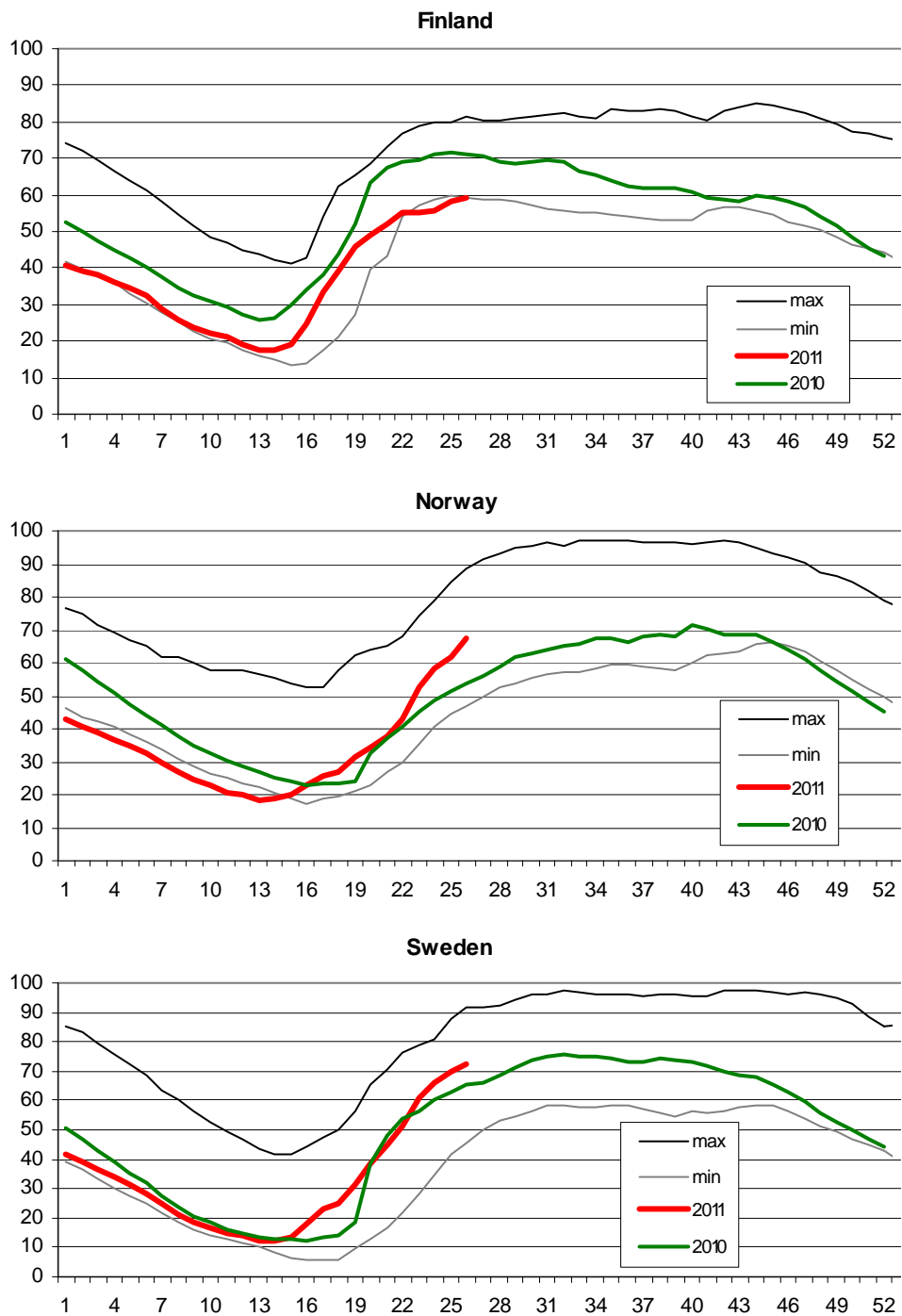
Consumption hourly load curves on 15.06.2011 CET

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

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