

Monthly report



November 2010

Monthly provisional values as of 02 May 2011

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	Monthly imports and exports	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 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 in GWh	
	Therm. nuclear	Fossil fuels	Hydro prod	Other renew.	of which wind	Non identifiable	Total			monthly	variation [%]
AT	0	2466	2678	0	0	700	5844	443	384	5903	3,2
BA	0	666	699	0	0	0	1365	-364	0	1001	4,2
BE ²	3885	2849	140	619	159	0	7493 ¹	331	147	7677	6,5
BG	1259	2034	307	35	35	0	3635	-886	115	2634	-4,8
CH	2350	179	2694	113	2	0	5336 ¹	644	183	5797	5,2
CY	0	362	0	3	3	0	365	0	0	365	-1,5
CZ	2098	4325	221	67	37	0	6711 ¹	-1110	50	5551	1,3
DE	11566	29655	1777	6504	3835	0	49502 ¹	-1979	654	46869	3,1
DK	0	2403	3	1154	896	0	3560 ¹	-380	0	3180	n.a.
EE	0	950	4	91	32	0	1045	-317	0	728	n.a.
ES	5085	10223	2840	5344	4288	32	23524	-603	345	22576	7,1
FI	1971	3068	1040	947	29	56	7082 ¹	970	0	8052	n.a.
FR	35455	7033	5663	1483	998	0	49634	-2293	620	46721	11,5
GB	4681	24172	702	1217	584	0	30772	16	358	30430	n.a.
GR	0	2738	724	265	221	0	3727 ¹	343	0	4070	-2,9
HR	0	390	715	15	13	0	1120	342	10	1452	-1,5
HU	1282	1631	17	216	53	0	3146	175	0	3321	1,3
IE	0	1957	101	341	341	22	2421 ¹	-22	0	2399	n.a.
IS	0	1	1054	364	0	0	1419	0	0	1419	n.a.
IT	0	17659	4620	1480	965	0	23759	3888	366	27281	1,9
LT	0	249	109	36	26	0	394 ¹	544	86	853	n.a.
LU	0	240	150	17	6	0	407	353	189	571	4,0
LV	0	278	301	11	5	0	590	56	0	646	n.a.
ME	0	86	276	0	0	0	362	14	0	376	76,5
MK	0	368	117	0	0	0	485	255	0	740	5,4
NI ³	0	548	1	81	76	1	631	187	0	818	n.a.
NL	350	9443	0	936	403	0	10729	-223	0	10506	6,7
NO	0	441	11589	91	91	0	12121 ¹	570	60	12631	n.a.
PL ⁴	0	12094	255	242	221	0	12591 ¹	-242	69	12280	2,1
PT	0	2222	998	1108	897	0	4328 ¹	239	83	4484	4,2
RO	945	2495	1483	82	68	0	5005	-394	20	4591	2,8
RS	0	2317	984	0	0	0	3301	-305	162	2834	-18,0
SE	4653	860	6133	1639	469	0	13285 ¹	477	0	13762	n.a.
SI	381	433	494	0	0	0	1308	-264	0	1044	4,0
SK	1109	551	376	44	1	70	2150 ¹	187	57	2280	1,5
ENTSO-E	77070	147386	49265	24545	14754	881	299147¹	652	3958	295842	n.a.
UA_W	0	596	14	0	0	0	610	-205	0	405	9,2

¹ Including deliveries from industry

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

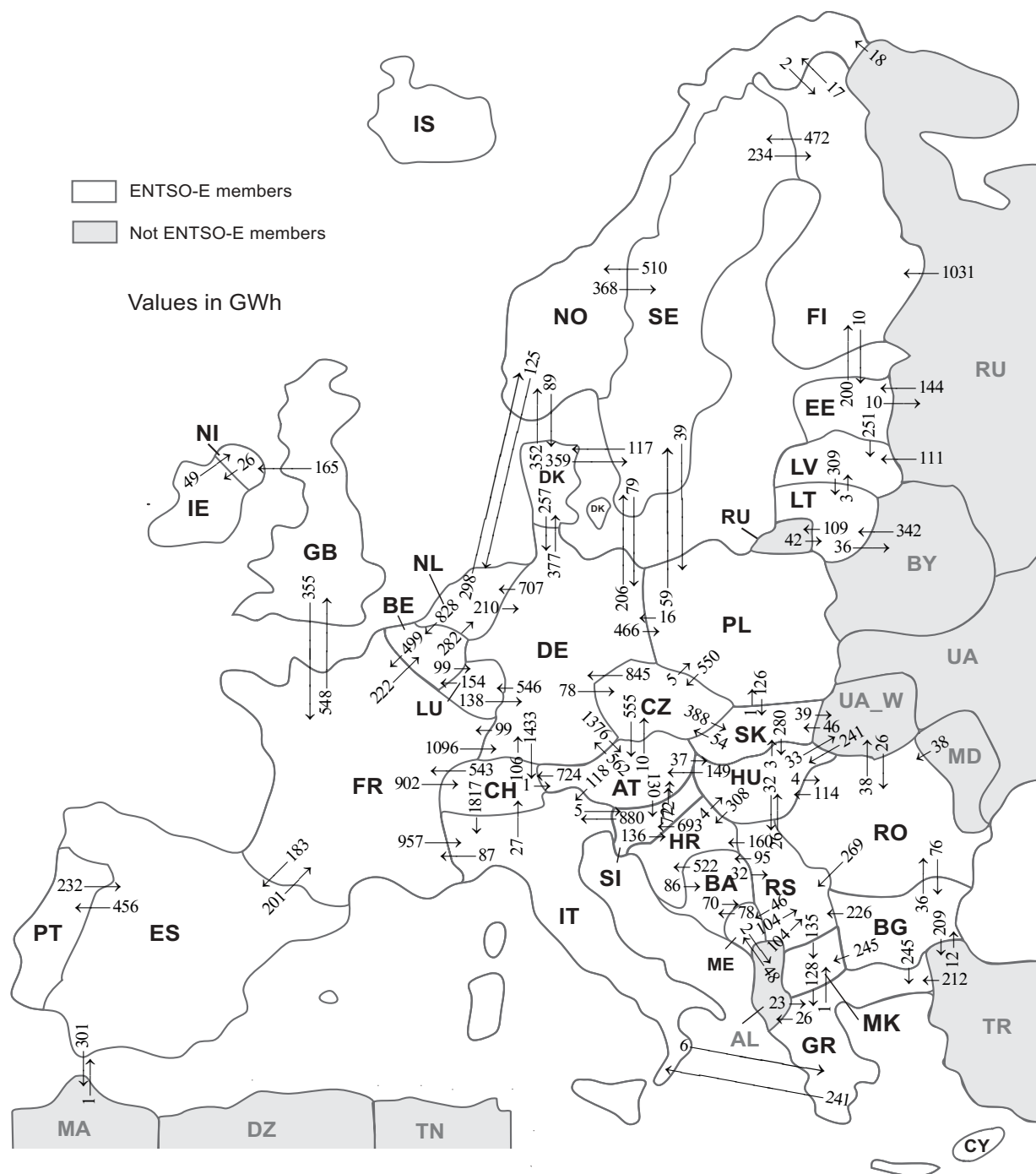
³ 9 Generating Units (1805MW) are capable of running on mixed fuels -

The data has identified which fuel type these have been run on and been added into the appropriate fuel typ.

⁴ 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	99	98	99	100	98
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	94	100	100	100	97
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: **29249GWh**

Total physical energy flows: **32491GWh**

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.

4 Monthly imports and exports

November 2010

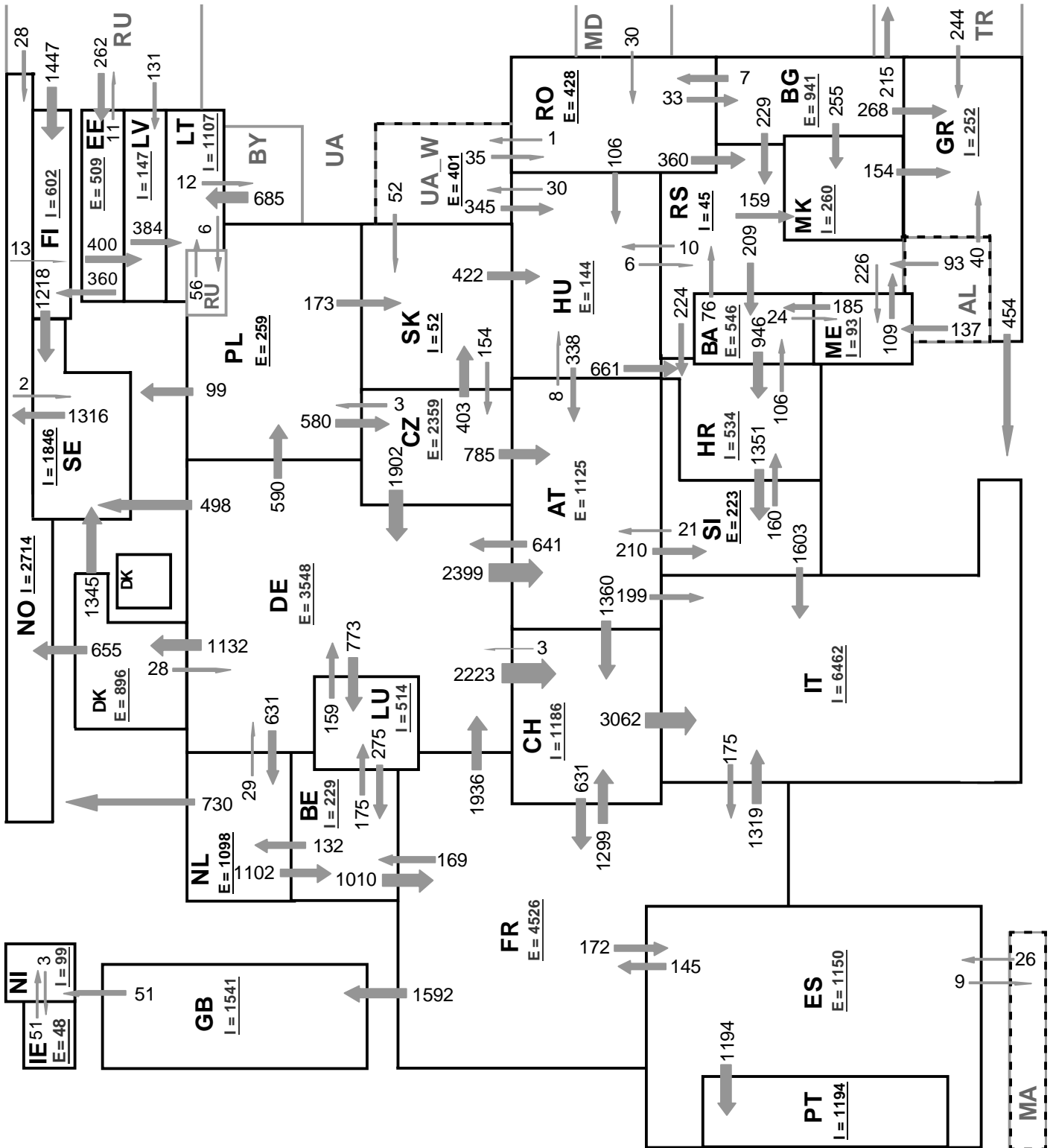
Overview of the monthly imports and exports in GWh

Exporting countries	Importing 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 ¹		
AT	-	-	-	-	724	10	562	-	-	-	-	-	-	-	-	37	-	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	-	-	
BA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	522	-	-	-	-	-	-	70	-	-	-	-	-	-	-	-	32	-	-	-	-		
BE	-	-	-	-	-	-	-	-	-	-	-	499	-	-	-	-	-	-	-	99	-	-	-	282	-	-	-	-	-	-	-	-	-	-	-		
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	245	-	-	-	-	-	-	-	245	-	-	-	-	-	36	226	-	-	-	-	-	-	209	
CH	1	-	-	-	-	-	-	-	-	-	-	543	-	-	-	-	-	1817	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CZ	555	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	388	-	-		
DE	1376	-	-	-	1433	78	-	377	-	-	-	99	-	-	-	-	-	-	-	546	-	-	-	-	707	466	-	-	-	-	206	-	-	-	-		
DK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	352	-	-	-	-	359	-	-	-	-		
EE	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-	-	-	-	251	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	
ES	-	-	-	-	-	-	-	-	-	-	-	201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	456	-	-	-	-	-	-	-	-	301	
FI	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	472	-	-	-	-	0	
FR	-	-	222	-	902	-	1096	-	-	183	-	-	548	-	-	-	-	957	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GB	-	-	-	-	-	-	-	-	-	-	-	355	-	-	-	-	-	-	-	-	-	-	-	165	-	-	-	-	-	-	-	-	-	-	-	-	-
GR	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	26	
HR	-	86	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	693	-	-	-		
HU	149	-	-	-	-	-	-	-	-	-	-	-	-	-	308	-	-	-	-	-	-	-	-	-	-	-	4	32	-	-	-	3	33	-	-		
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	
IT	0	-	-	-	27	-	-	-	-	-	-	87	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-		
LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	145	
LU	-	-	154	-	-	-	138	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LV	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	309	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
ME	-	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
MK	-	-	-	0	-	-	-	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NL	-	-	828	-	-	-	210	-	-	-	-	-	0	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NO	-	-	-	-	-	-	-	89	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	-	-	-	-	-	-	-	368	-	0	
PL	-	-	-	-	550	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	-	126	-	0	
PT	-	-	-	-	-	-	-	-	-	232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RO	-	-	-	76	-	-	-	-	-	-	-	-	-	-	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	269	-	38	
RS	-	95	-	0	-	-	-	-	-	-	-	-	-	160	26	-	-	-	-	-	-	46	135	-	-	-	-	0	-	-	-	-	-	-	-	0	
SE	-	-	-	-	-	-	79	117	-	-	234	-	-	-	-	-	-	-	-	-	-	-	-	-	-	510	39	-	-	-	-	-	-	-	-	-	
SI	72	-	-	-	-	-	-	-	-	-	-	-	-	136	-	-	880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SK	-	-	-	-	-	54	-	-	-	-	-	-	-	-	280	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	39	-	
UA_W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	241	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	-	-	
Other III ¹	-	-	-	12	-	-	-	-	-	144	1	1031	-	-	235	-	-	-	384	-	111	48	-	-	-	18	0	-	38	104	-	-	-	-	-	-	

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

Sum of the monthly imports and exports in GWh

	import	export		import	export
AT	2153	1581	IT	4013	125
BA	259	624	LT	693	148
BE	1204	880	LU	645	292
BG	88	961	LV	365	309
CH	3086	2467	ME	164	184
CZ	692	1793	MK	381	128
DE	3309	5288	NI	214	26
DK	583	968	NL	1114	1336
EE	154	461	NO	1195	584
ES	416	958	PL	511	751
FI	1467	499	PT	456	232
FR	1784	3908	RO	104	497
GB	548	520	RS	767	462
GR	614	268	SE	1464	979
HR	1126	783	SI	828	1088
HU	702	529	SK	563	374
IE	26	49	UA_W	110	313



Sum of load flows in MW

ENTSO-E = 44600 MW

Total = 48495 MW

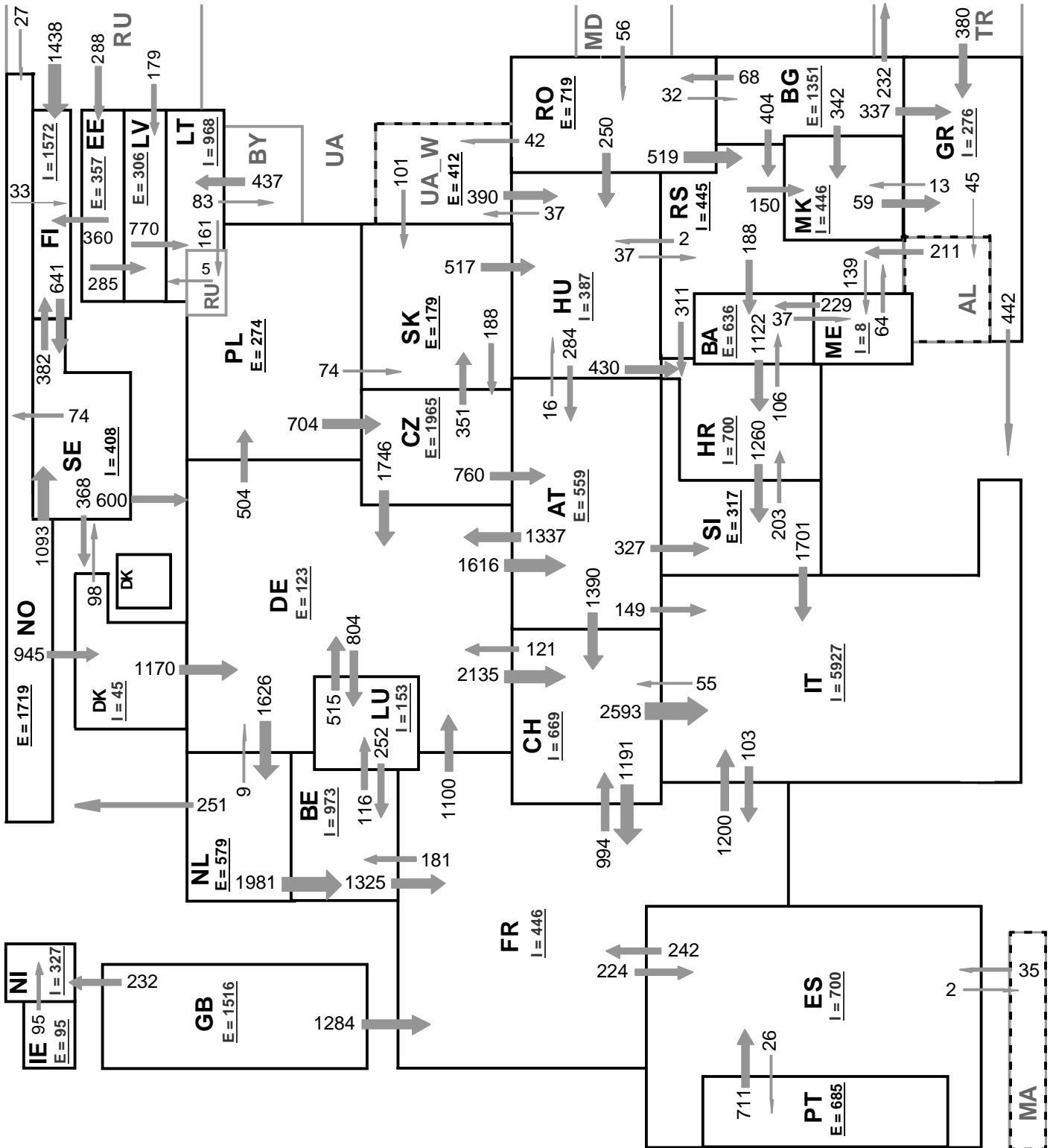
Synchronous operation with ENTSO-E region

I = Import balance
E = Export balance

6

Load flows (day) on 17.11.10 at 11:00 a.m. CET in MW

November 2010



Sum of load flows in MW

ENTSO-E = 44344 MW

Total = 48903 MW

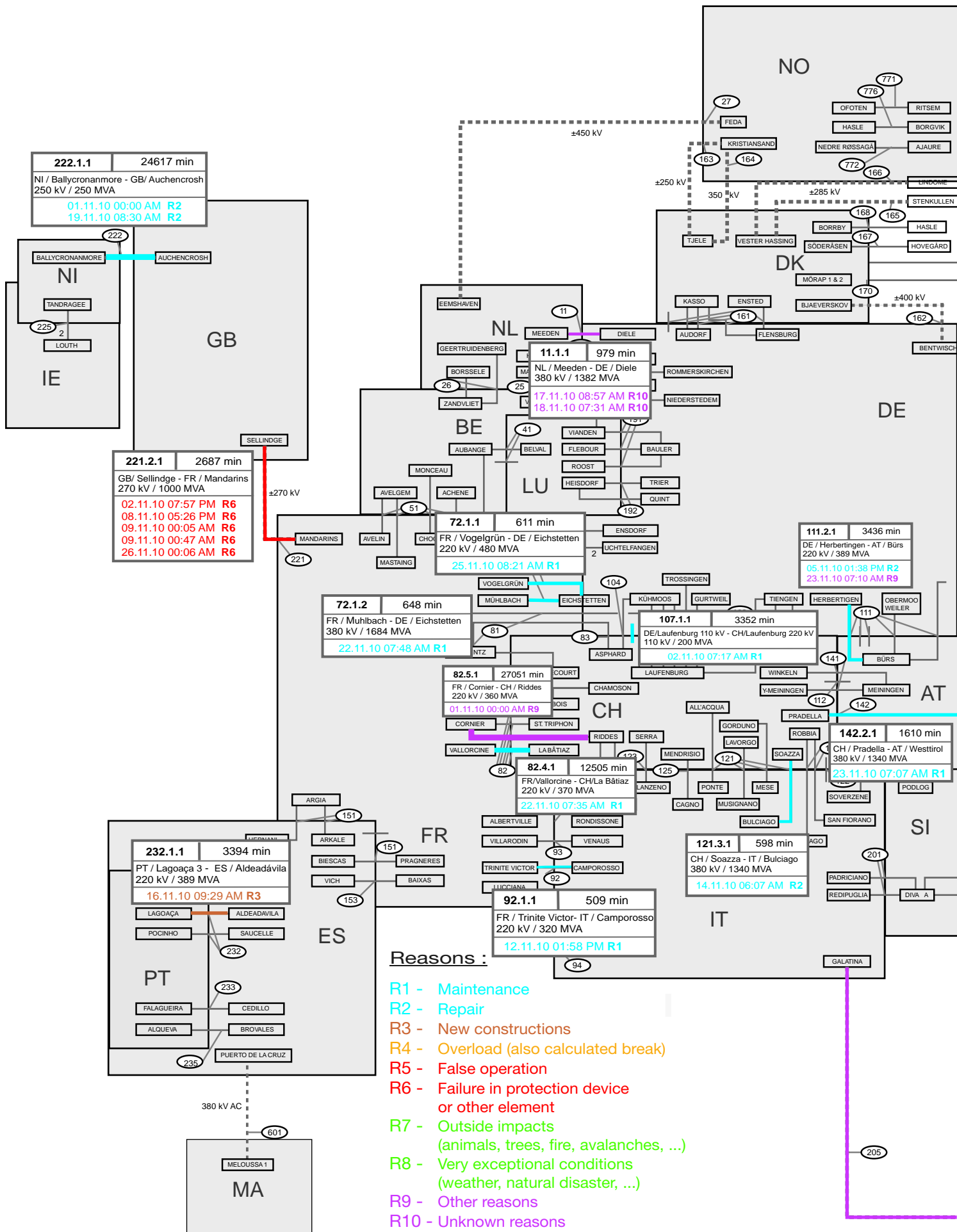
Synchronous operation with ENTSO-E region

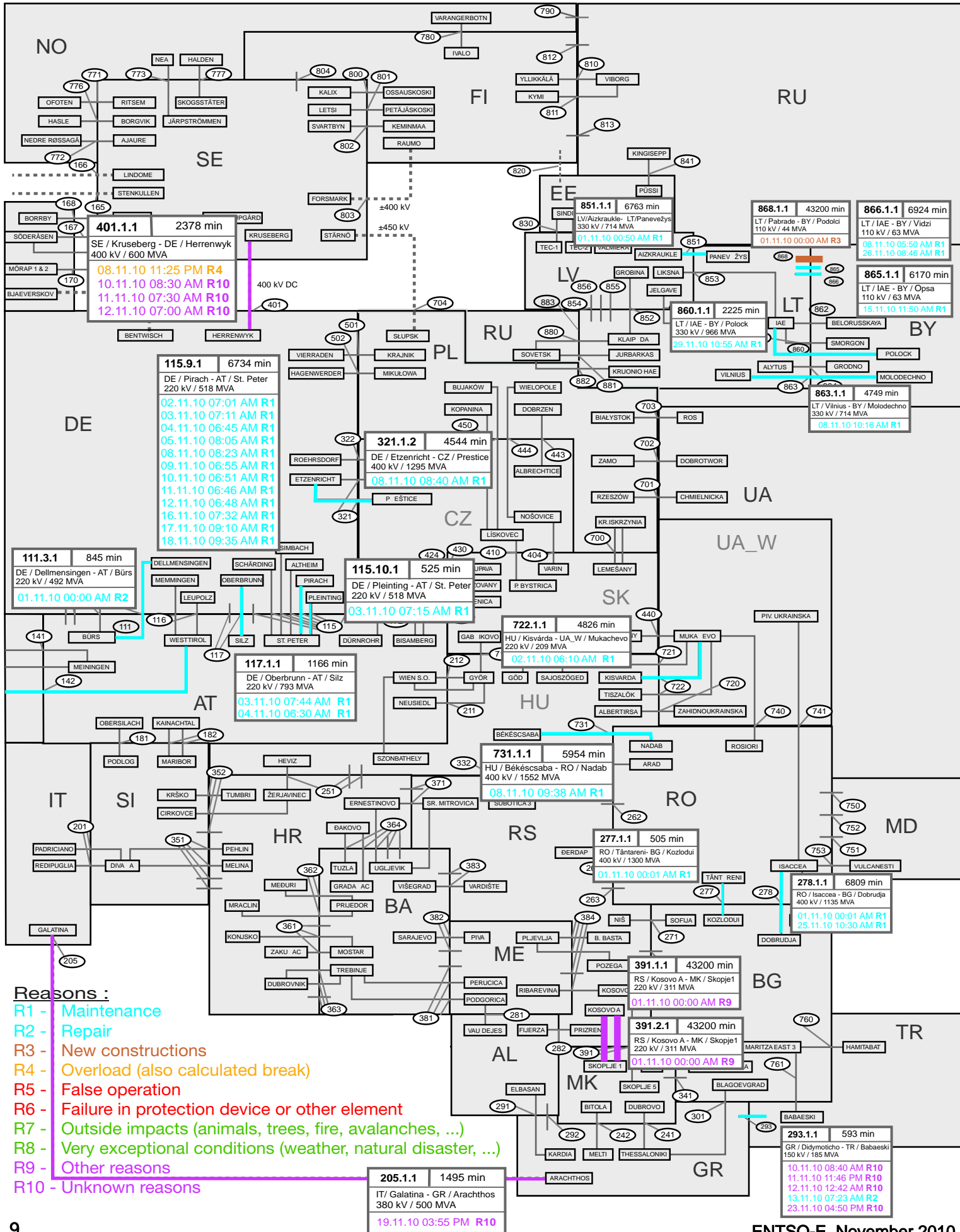
I = Import balance
E = Export balance

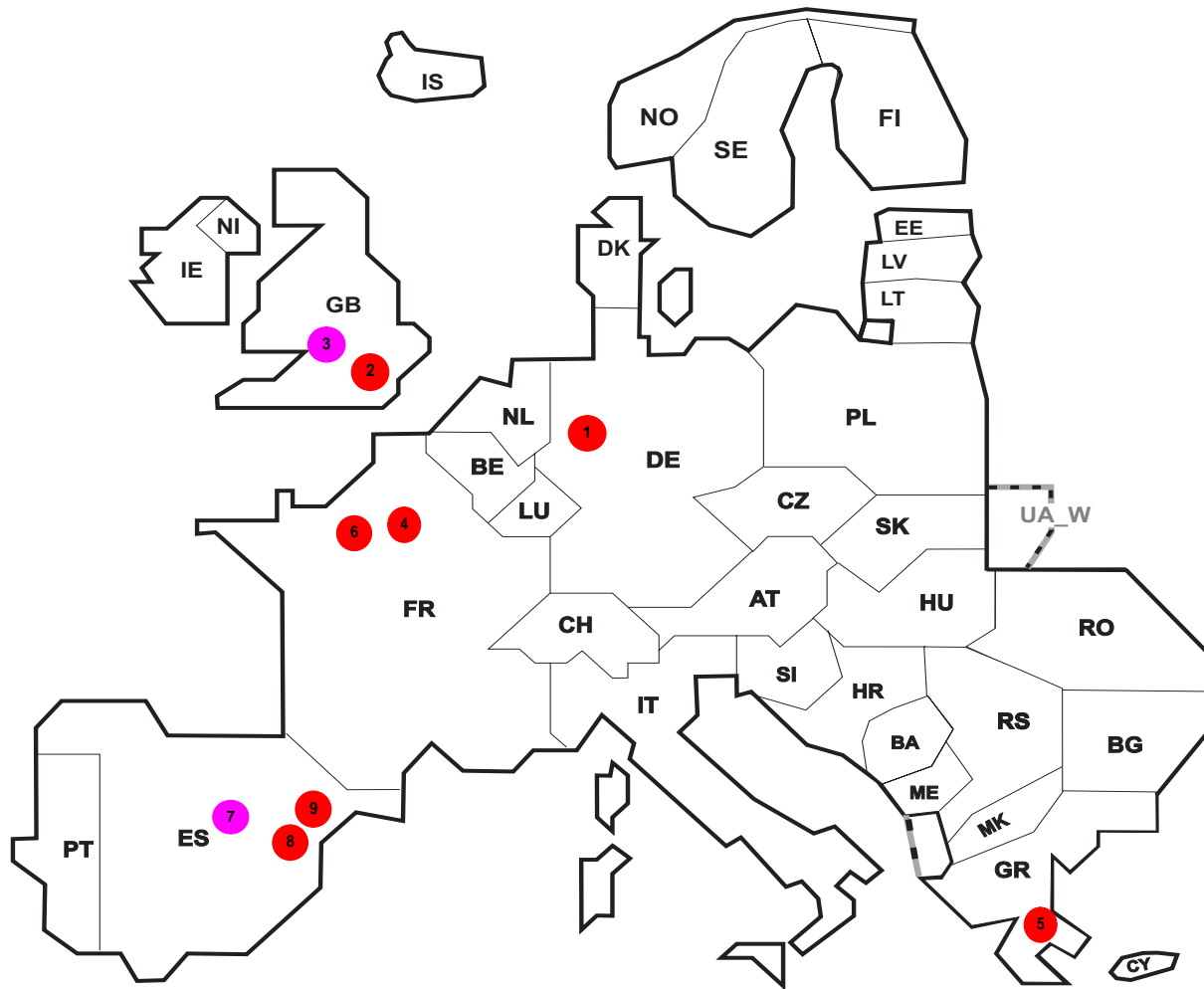
7

Unavailability of international tie lines (major events with sum over 500 minutes)

November 2010







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	DE	Gersteinw erk	R6	5500	500	663	5,296
2	GB	Kingsnorth	R6	128	0	110	n.a.
3	GB	Hartmoor	R9	24	70	45	n.a.
4	FR	Avenir	R6	22	251	5	0,228
5	GR	DISTOMO	R6	2	2	84	0,020
6	FR	Les Fossés	R6	11	98	7	0,011
7	ES	Prosperidad	R10	5	77	27	0,009
8	ES	El Palmeral	R6	2	30	5	0,004
9	ES	Saladas	R5	1	10	5	0,003

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 17.11.2010 CET of each country

	Highest		Lowest		Load representativity %
	load MW	variation % ¹	load MW	variation % ¹	
AT	8562	-0,9	5452	7,1	100
BA	1749	1,3	970	-0,1	100
BE ²	13229	6,3	9111	5,7	100
BG	5167	-5,0	3285	-3,4	100
CH	9520	5,3	6746	12,4	100
CY ³	651	n.a.	337	n.a.	100
CZ	7881	-11,4	6031	0,3	100
DE ⁴	79204	-1,1	55928	11,0	91
DK	5804	n.a.	3154	n.a.	100
EE	1237	n.a.	763	n.a.	100
ES	39343	7,2	24309	5,2	98
FI	12302	n.a.	9530	n.a.	100
FR	79106	15,3	56436	19,3	100
GB	55356	n.a.	29908	n.a.	95
GR	6907	-3,8	4205	-0,4	100
HR	2541	-1,3	1531	11,2	100
HU	5585	-6,8	3525	-9,4	100
IE	4326	n.a.	2298	n.a.	100
IS	2070	n.a.	1852	n.a.	100
IT	49765	5,1	28911	7,5	100
LT	1505	n.a.	838	n.a.	100
LU	966	-3,2	709	4,4	100
LV	1093	n.a.	565	n.a.	100
ME	569	n.a.	354	n.a.	100
MK	1197	6,2	715	0,8	100
NI	1606	n.a.	816	n.a.	100
NL	17128	-4,0	9556	-8,5	100
NO	19787	n.a.	15174	n.a.	100
PL ⁵	21179	2,7	13828	1,3	100
PT	7943	3,5	4945	7,5	97
RO	7588	-0,3	5187	-0,4	100
RS	5735	-2,3	3347	-5,5	100
SE	22518	n.a.	16738	n.a.	100
SI	1741	-0,6	1192	19,9	100
SK ⁶	3551	-5,1	2778	7,8	100
ENTSO-E	499537	n.a.	332684	n.a.	
UA_W	879	7,1	546	15,9	100

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

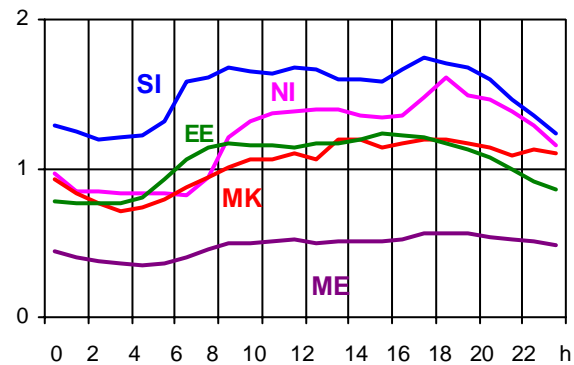
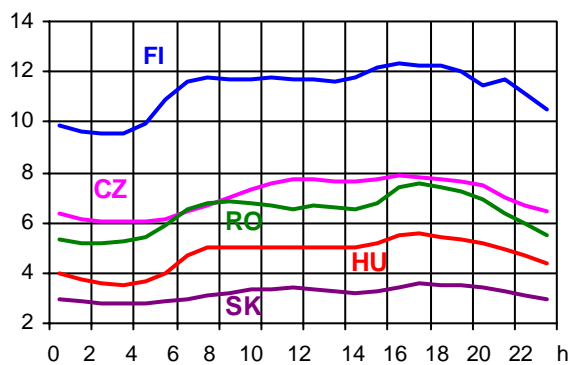
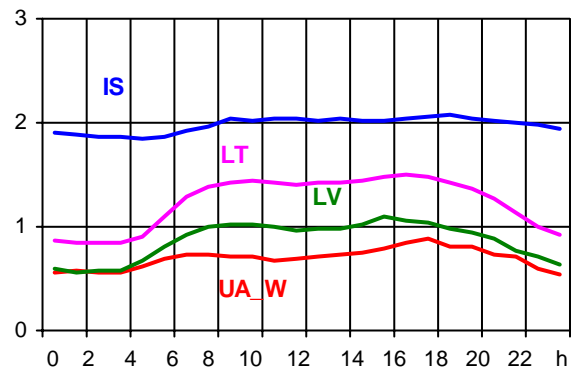
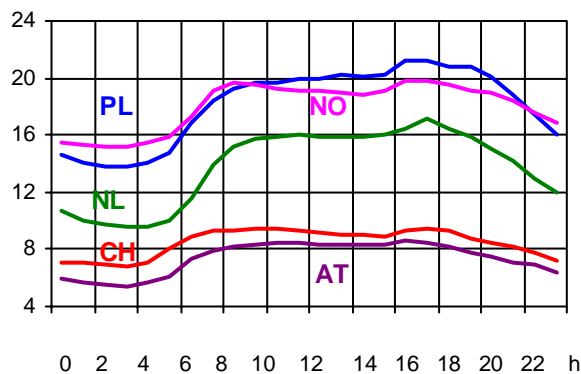
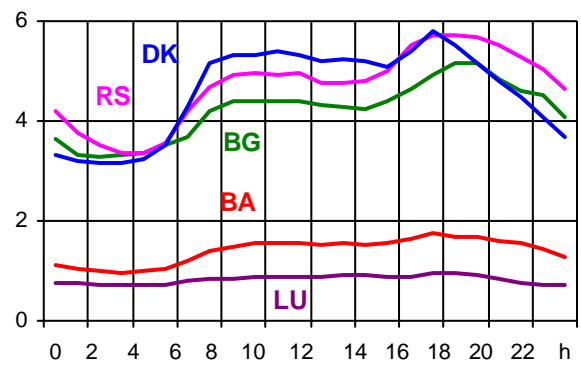
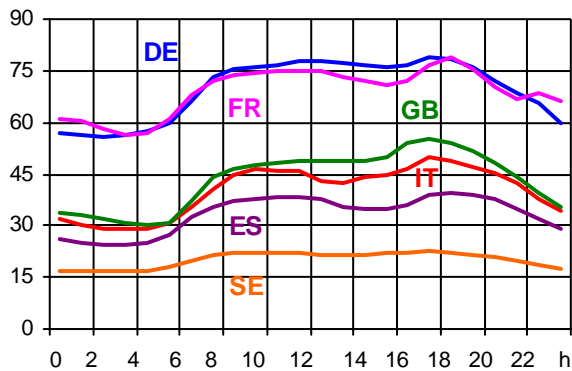
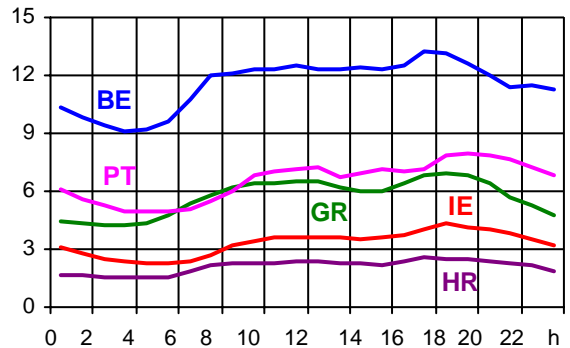
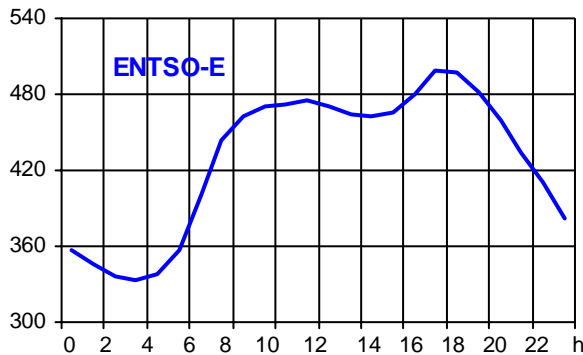
⁴ Holiday in Saxonia

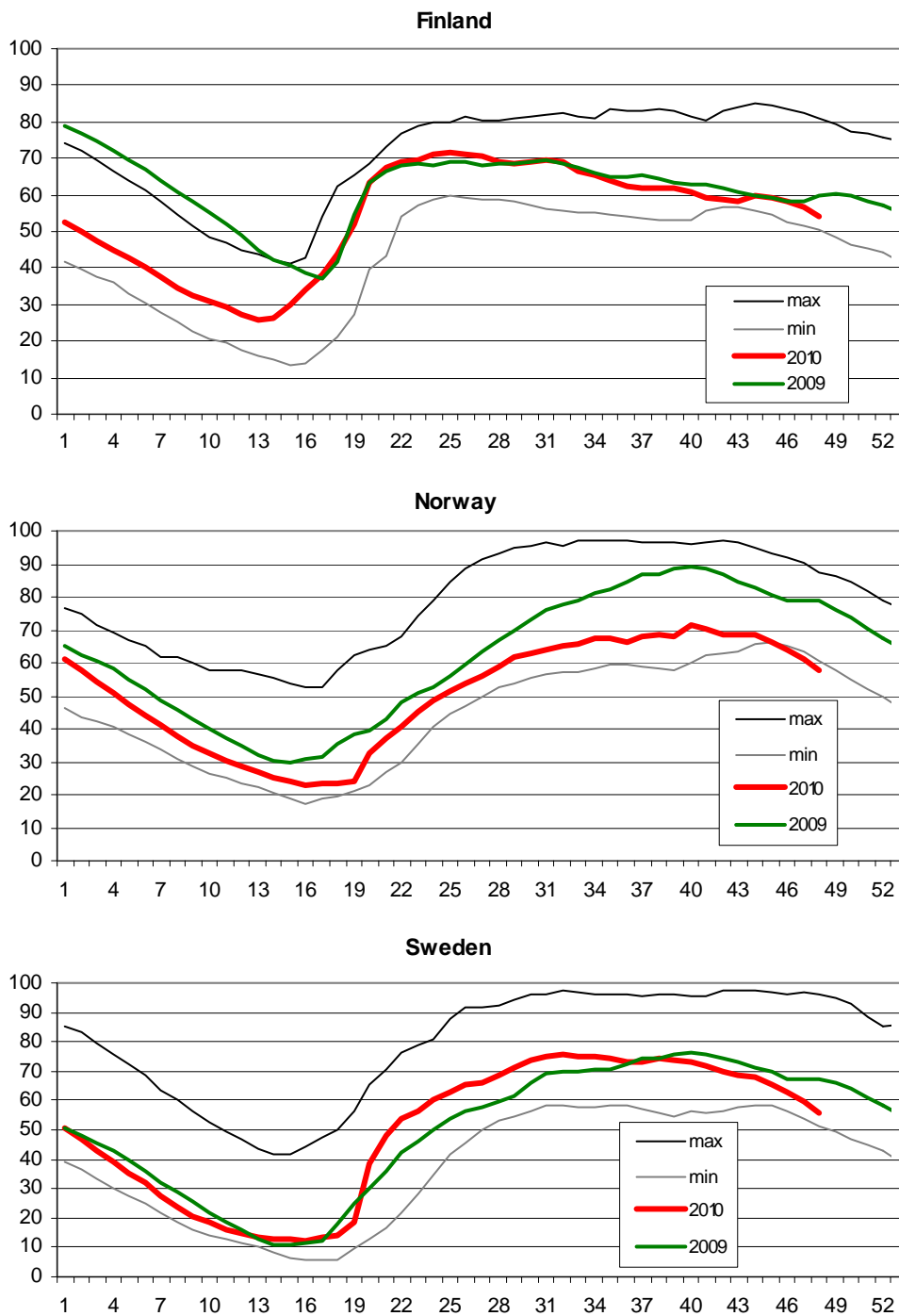
⁵ Operational data

⁶ Holiday in Slovak Republic

Consumption hourly load curves on 17.11.2010 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

Contact

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