

Monthly report



May 2011

Monthly provisional values as of 12 September 2011

European Network of
Transmission System Operators
for Electricity



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 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	0	2958	0	0	0	760	3718	435	366	3787	-28,6
BA	0	758	304	0	0	0	0	1062	-123	0	939	4,6
BE ²	3736	2828	64	583	162	123	0	7211 ¹	-135	80	6996	-0,9
BG	731	2328	332	29	29	0	0	3420	-926	86	2408	5,4
CH	2397	158	2795	106	5	0	0	5456 ¹	-134	238	5084	-0,2
CY	0	370	0	8	8	0	0	378	0	0	378	-0,8
CZ	2181	3863	171	316	24	294	0	6531 ¹	-1553	34	4944	-0,7
DE ³	4094	27600	1434	8054	3033	2600	0	41182 ¹	2223	590	42815	0,1
DK	0	1534	1	954	784	0	0	2489 ¹	238	0	2727	-0,5
EE	0	754	4	89	23	0	0	847	-259	0	588	2,3
ES	3637	10210	2879	4611	3101	925	27	21364	-234	159	20971	-0,2
FI	1382	2268	1006	910	40	0	67	5633 ¹	909	0	6542	0,4
FR	33083	3169	3482	1328	730	170	0	41062	-5330	637	35095	-5,9
GB	6046	17468	519	1819	873	0	0	25852	-66	268	25518	-1,3
GR	0	3313	331	260	202	29	0	3904 ¹	76	6	3974	-4,9
HR	0	190	293	18	17	0	0	501	850	14	1337	-0,5
HU	1112	1595	0	0	0	0	0	2707	740	0	3447	12,3
IE	0	1416	29	542	542	0	16	2003 ¹	61	0	2064	-1,5
IS	0	1	1389	345	0	0	0	1735	0	0	1735	25,2
IT	0	17320	4214	1784	702	623	0	23318	3451	171	26598	1,9
LT	0	102	89	38	30	0	0	229 ¹	655	68	816	4,5
LU	0	216	50	17	4	0	0	283	361	73	571	-0,5
LV	0	120	509	11	5	0	0	640	-103	0	537	0,0
ME ⁴	0	67	252	0	0	0	0	319	-30	0	289	n.a.
MK	0	424	94	0	0	0	0	518	133	0	651	7,6
NI	0	0	1	127	122	0	1	129	136	0	265	-63,1
NL	356	7141	0	715	403	n.a.	0	8212	487	0	8699	-1,9
NO	0	428	8036	71	71	0	0	8535 ¹	396	250	8681	-4,1
PL ⁵	0	11771	216	211	184	0	0	12198 ¹	-573	51	11574	2,5
PT	0	2622	983	708	465	25	0	4313 ¹	-46	41	4226	0,8
RO	567	2384	1512	94	78	0	0	4557	-180	24	4353	6,5
RS	0	2433	814	0	0	0	0	3247	271	85	3433	3,9
SE	4861	415	4231	1321	447	0	0	10828 ¹	-351	0	10477	n.a.
SI	510	354	303	0	0	0	0	1167	-109	0	1058	6,7
SK	1158	653	260	71	0	22	56	2198 ¹	-42	37	2119	1,5
ENTSO-E	65851	126273	39555	25140	12084	4811	927	257746 ¹	1228	3278	255696	n.a.
UA_W	0	671	9	0	0	0	0	680	-344	0	336	17,5

¹ Including deliveries from industry

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

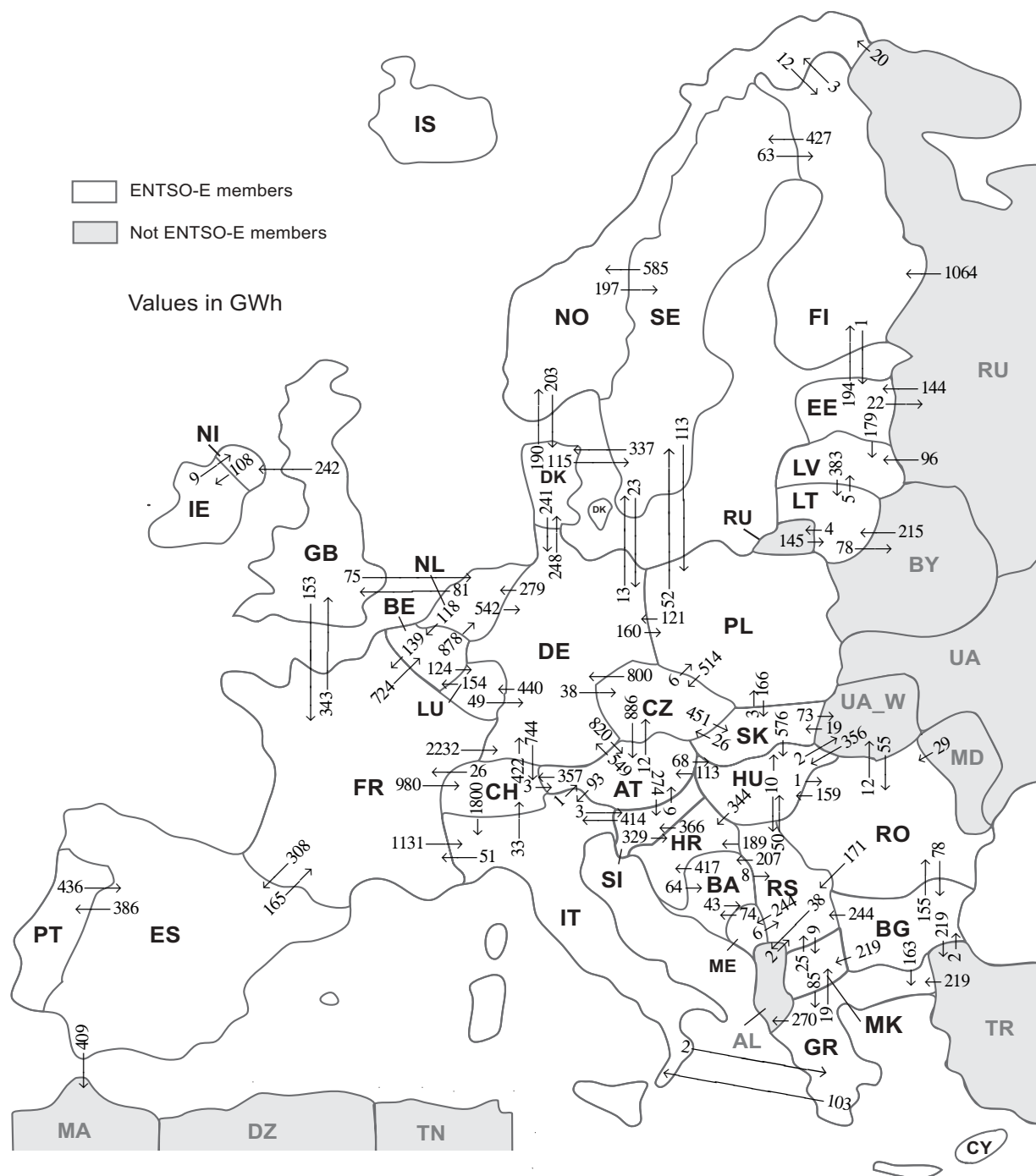
³ Production of renewables are all estimated.

⁴ National monthly values as of May 2010

⁵ 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	95	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: **27000 GWh**

Total physical energy flows: **30493 GWh**

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

Overview of the detailed physical energy flows in GWh

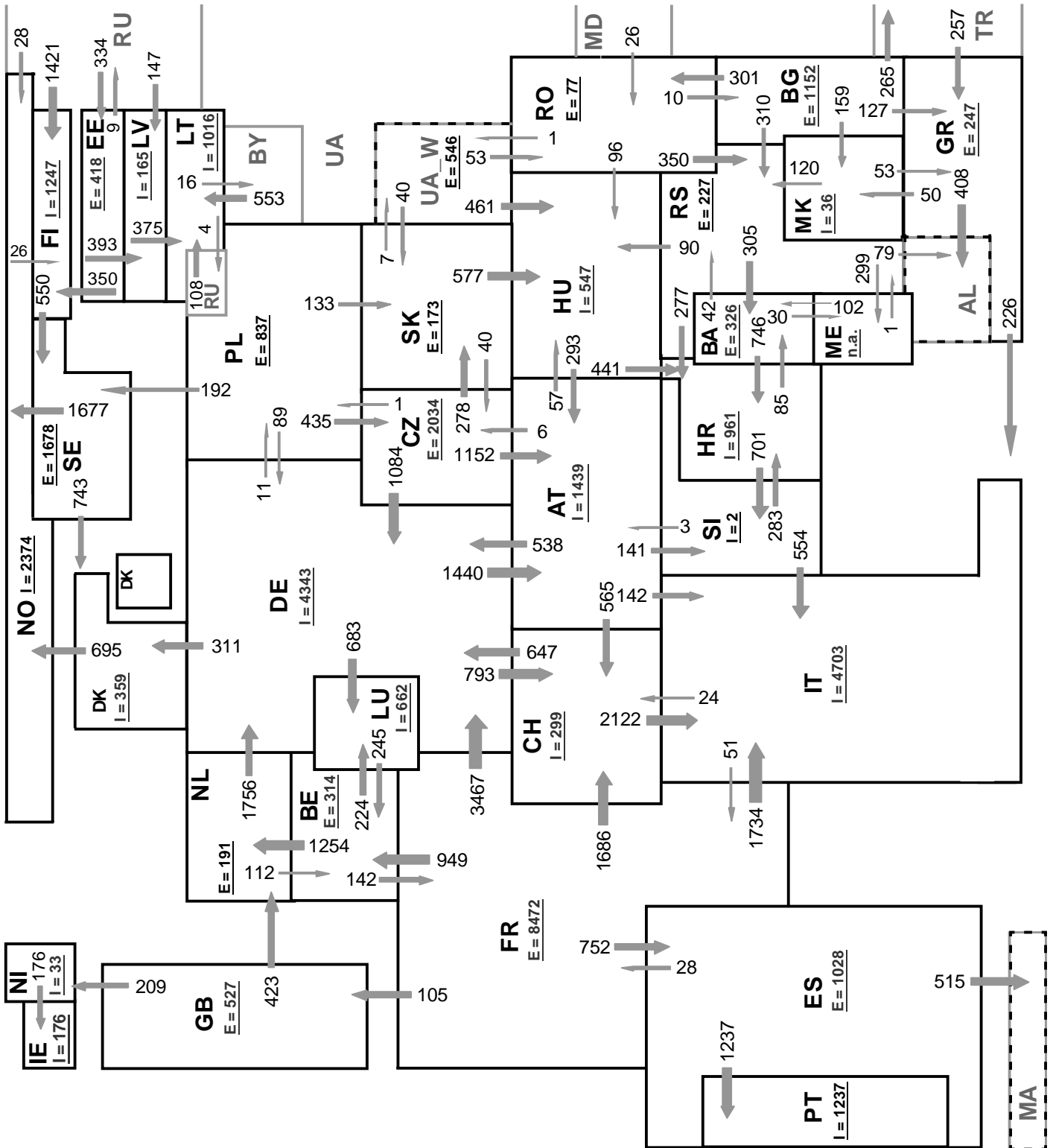
May 2011

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	NL	NO	PL	PT	RO	RS	SE	SI	SK	UA_W	Other III ¹				
AT	-	-	-	-	357	12	549	-	-	-	-	-	-	-	-	68	-	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	274	-	-			
BA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BE	-	-	-	-	-	-	-	-	-	-	-	139	-	-	-	-	-	-	-	124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	163	-	-	-	-	-	-	-	-	219	-	-	-	-	155	244	-	-	-	-	-	-	219		
CH	3	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
CZ	886	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	451	-	-		
DE	820	-	-	-	744	38	-	248	-	-	-	0	-	-	-	-	-	-	-	440	-	-	-	-	279	160	-	-	-	-	13	-	-	-	-	-		
DK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190	-	-	-	-	115	-	-	-	-	-		
EE	-	-	-	-	-	-	-	-	-	-	194	-	-	-	-	-	-	-	-	-	179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22		
ES	-	-	-	-	-	-	-	-	-	-	-	165	-	-	-	-	-	-	-	-	-	-	-	-	-	-	386	-	-	-	-	-	-	-	-	409		
FI	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	427	-	-	-	-	0		
FR	-	-	724	-	980	-	-	-	-	308	-	-	343	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GB	-	-	-	-	-	-	-	-	-	-	-	153	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GR	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	242	75	-	-	-	-	-	-	-	-	-	-	-	-	270	
HR	-	64	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	103	-	-	-	19	-	-	-	-	-	-	0	-	366	-	-	-	-	-		
HU	113	-	-	-	-	-	-	-	-	-	-	-	-	-	344	-	-	-	-	-	-	-	-	-	-	-	1	10	-	-	-	0	2	-	-	-		
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
IT	1	-	-	-	33	-	-	-	-	-	-	51	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82	
LU	-	-	154	-	-	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LV	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	383	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
ME	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.a.	
MK	-	-	-	0	-	-	-	-	-	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-	
NL	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NO	-	-	118	-	-	-	542	-	-	-	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	0	
PL	-	-	-	-	514	121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
PT	-	-	-	-	-	-	-	-	-	436	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RO	-	-	-	78	-	-	-	-	-	-	-	-	-	-	-	159	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
RS	-	207	-	0	-	-	-	-	-	-	-	-	-	189	50	-	-	-	-	-	-	244	9	-	-	-	-	0	-	-	-	-	-	-	-	-	38	
SE	-	-	-	-	-	-	23	337	-	-	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	585	113	-	-	-	-	-	-	-	-	-	-	
SI	6	-	-	-	-	-	-	-	-	-	-	-	-	329	-	-	414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SK	-	-	-	-	-	26	-	-	-	-	-	-	-	-	576	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	73	-
UA_W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	356	-	-	-	-	-	-	-	-	-	-	-	-	55	-	-	-	-	-	-	19	-	-	
Other III ¹	-	-	-	2	-	-	-	-	144	0	1064	-	-	219	-	-	-	-	360	-	96	n.a.	-	-	-	20	0	-	29	2	-	-	-	-	-	-	-	

Other III¹: 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	1829	1353	IT	3541	90
BA	345	468	LT	743	87
BE	996	1141	LU	564	203
BG	80	1000	LV	280	383
CH	2114	2251	ME	287	80
CZ	590	2143	MK	247	110
DE	4979	2742	NI	251	108
DK	788	546	NL	1232	741
EE	145	395	NO	798	412
ES	744	960	PL	282	853
FI	1333	431	PT	386	436
FR	534	5718	RO	240	420
GB	424	470	RS	466	737
GR	469	392	SE	804	1121
HR	1279	430	SI	643	749
HU	1209	470	SK	636	678
IE	108	9	UA_W	87	430



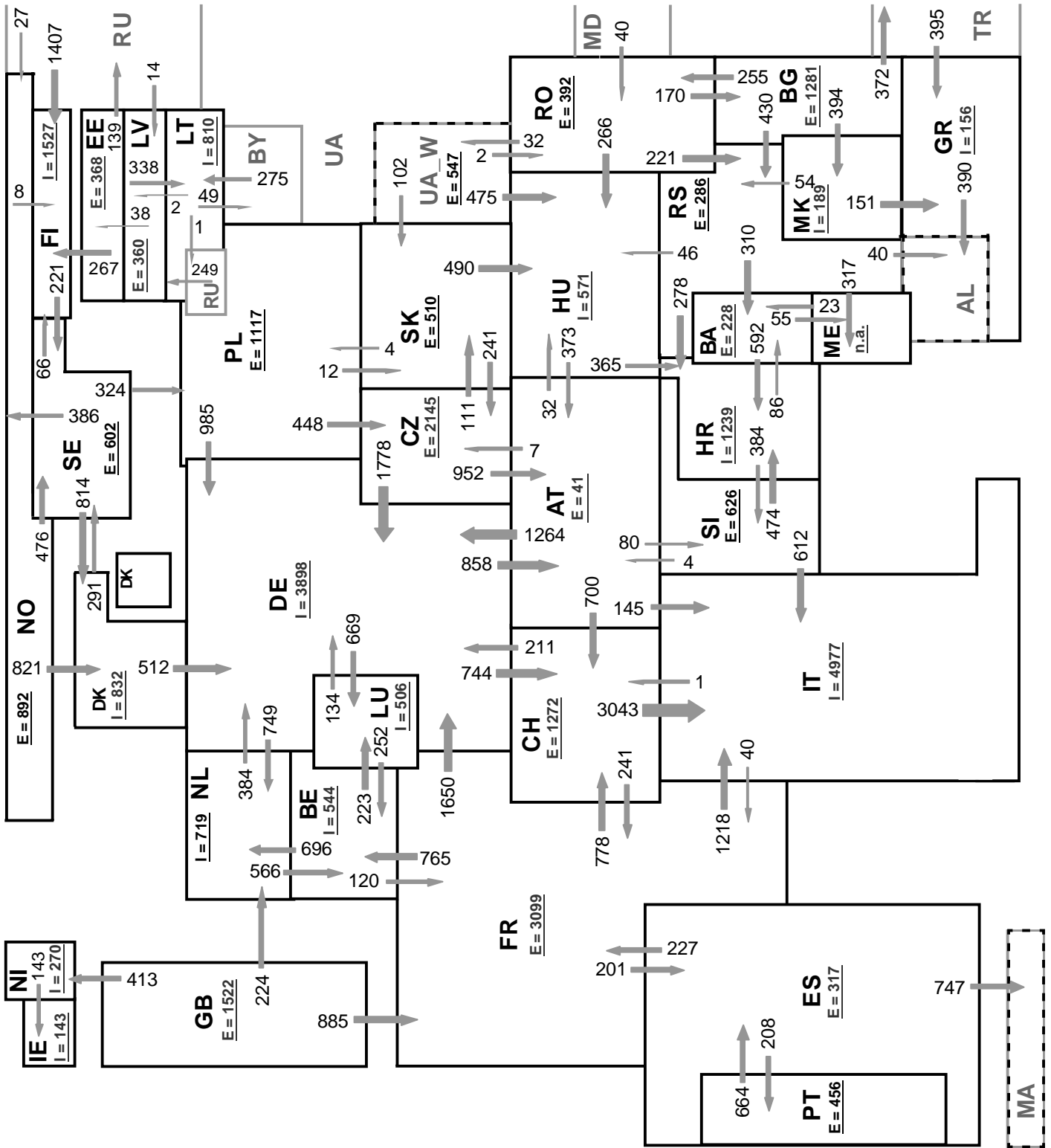
Sum of load flows in MW

ENTSO-E = 36874 MW

Total = 41606 MW

Synchronous operation with ENTSO-E region

I = Import balance
E = Export balance



Sum of load flows in MW

ENTSO-E = 33980 MW

Total = 38736 MW

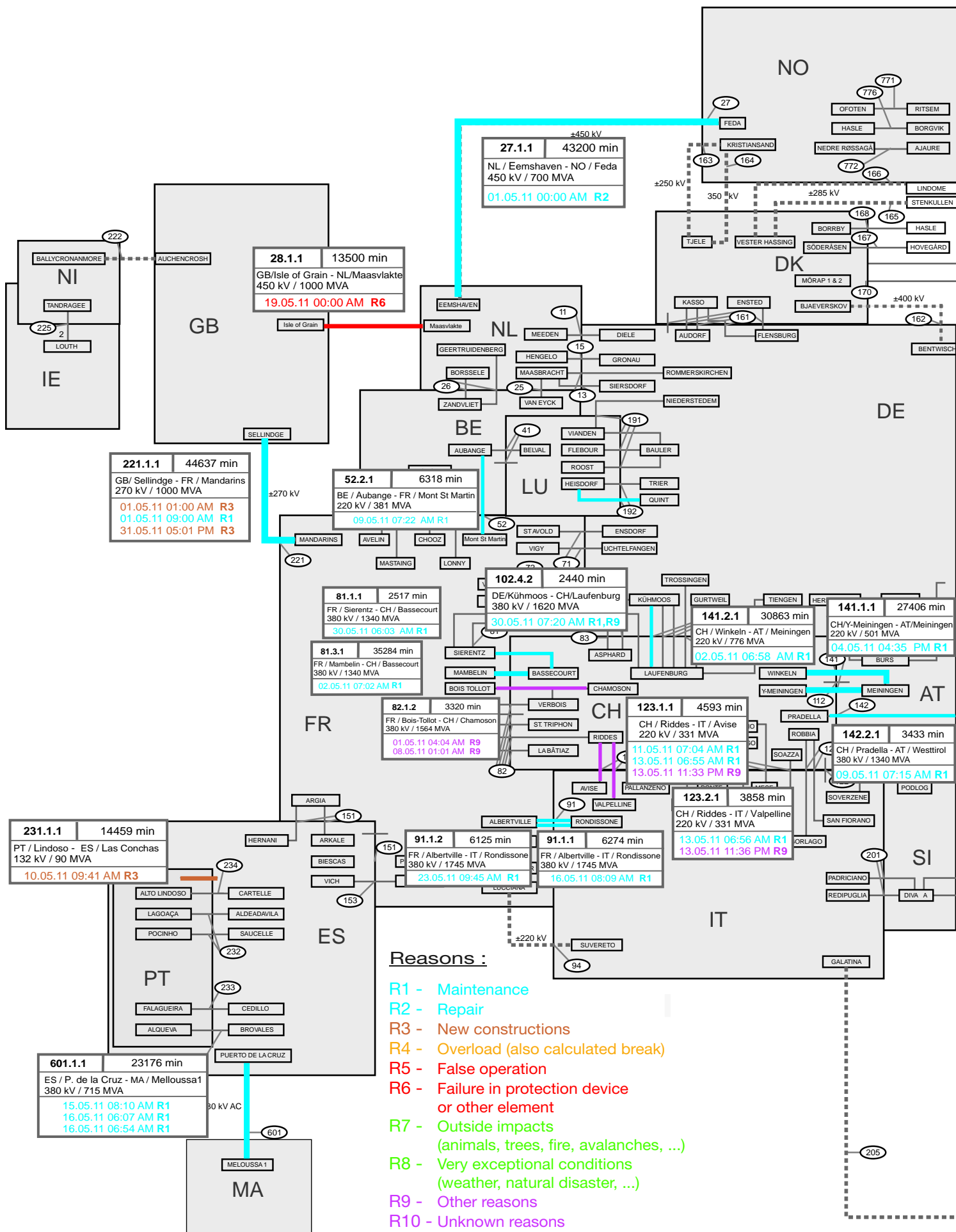
Synchronous operation with ENTSO-E region

I = Import balance
E = Export balance

7

Unavailability of international tie lines (major events with sum over 2000 minutes)

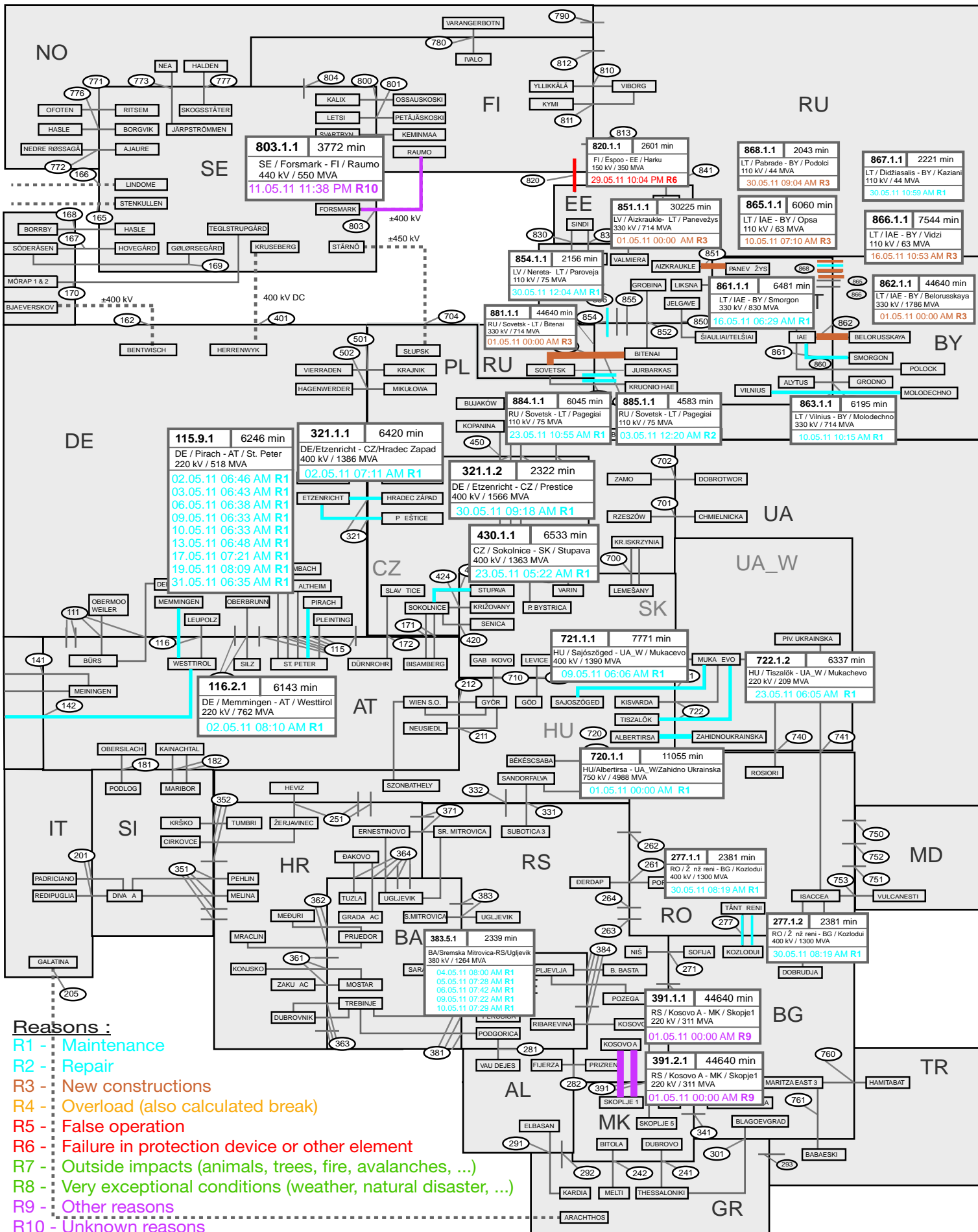
May 2011

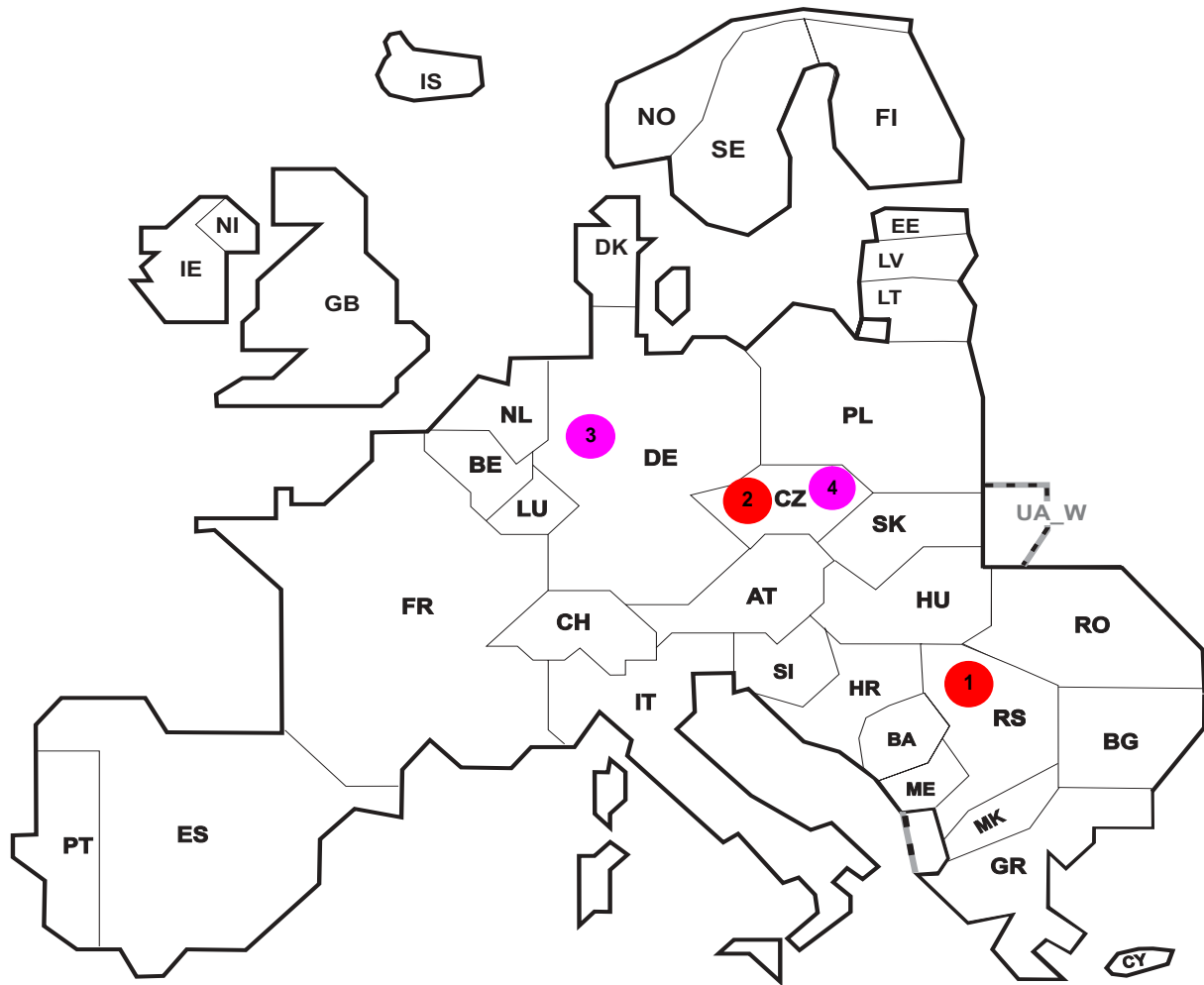


7

Unavailability of international tie lines (major events with sum over 2000 minutes)

May 2011





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	RS	Obrenovac	R6	161	0	0	2,091
2	CZ	Babylon	R6	72	0	52	0,594
3	DE	Niederaußem	R10	381	301	76	0
4	CZ	Čechy střed	R9	18	110	9	0

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 18.05.2011 CET of each country

	Highest load MW	variation % ¹	Lowest load MW	variation % ¹	Load representativity %
AT	7795	-2,7	4695	-6,0	100
BA	1603	-0,2	983	4,0	100
BE ²	11584	0,9	7787	-7,1	100
BG	4312	-0,9	3013	5,1	100
CH	8658	-2,7	5468	-8,0	100
CY ³	656	3,0	352	1,4	100
CZ	7925	-5,6	5928	-0,2	100
DE	74800	-1,0	48915	-7,2	91
DK	4806	-0,7	2779	-1,1	100
EE	1000	5,4	639	13,9	100
ES	34937	2,5	22925	0,5	98
FI	9592	1,2	7513	3,8	100
FR	56218	-4,8	40025	-7,6	100
GB	40237	-4,3	23774	-6,1	100
GR	6460	-6,0	3979	-4,4	100
HR	2210	-0,4	1443	11,9	100
HU	4855	-3,2	3349	-5,4	100
IE	3462	-1,0	2013	-2,0	100
IS	1965	-0,3	1819	0,2	100
IT	42735	-3,1	28642	2,4	100
LT	1359	4,0	838	7,0	100
LU	969	8,6	697	3,3	100
LV	725	-19,0	444	-8,5	100
ME ⁴	475	n.a.	314	n.a.	100
MK	1047	4,6	666	7,1	100
NI	1286	-2,1	672	-0,4	100
NL	15282	3,5	9547	4,4	100
NO	13686	-1,3	10451	-1,1	100
PL ⁵	18378	-3,2	12947	-1,0	100
PT	7097	-1,0	4624	0,2	97
RO	6553	-3,9	5032	2,2	100
RS	4845	-11,7	2902	-10,3	100
SE	15775	-1,7	11739	3,8	100
SI	1664	5,6	1263	15,6	100
SK	3362	-4,2	2628	-1,4	100
ENTSO-E	413532	n.a.	283243	n.a.	
UA_W	750	18,1	493	33,2	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

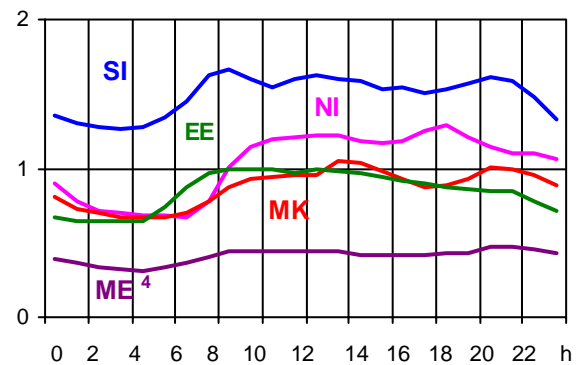
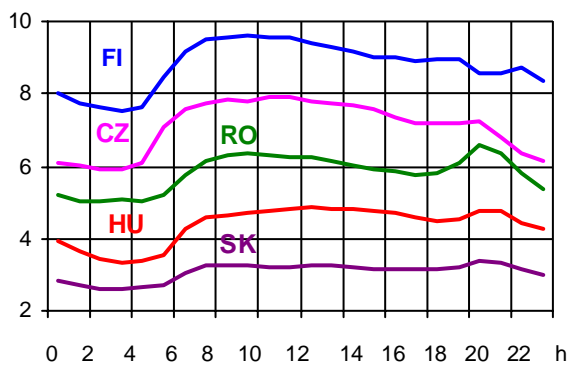
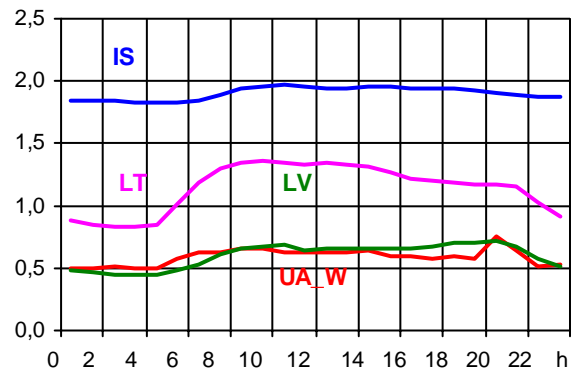
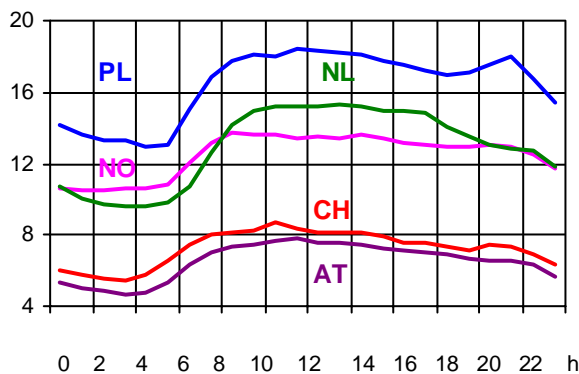
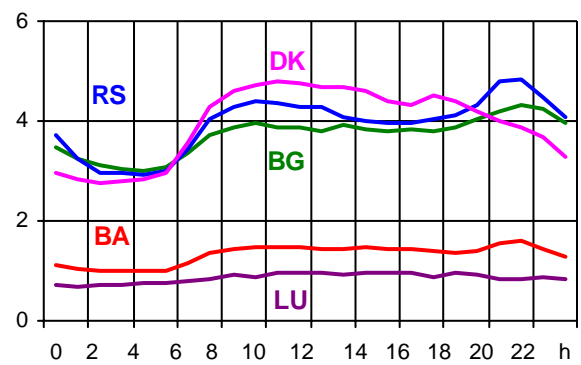
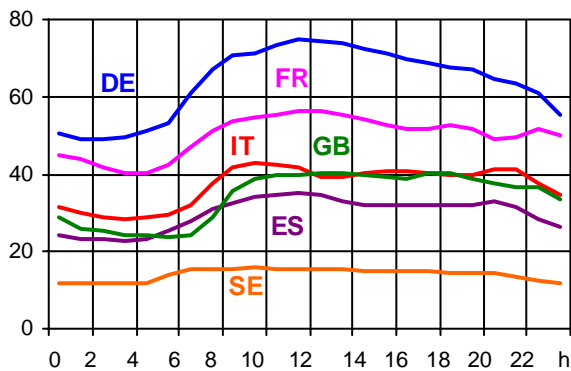
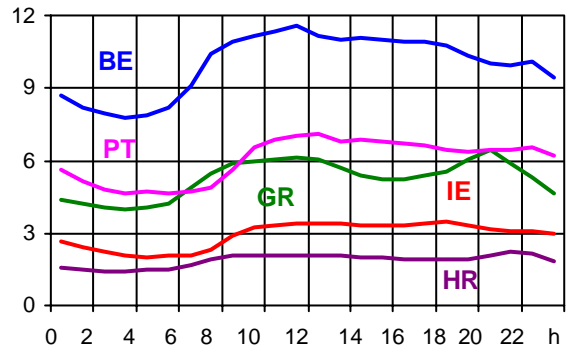
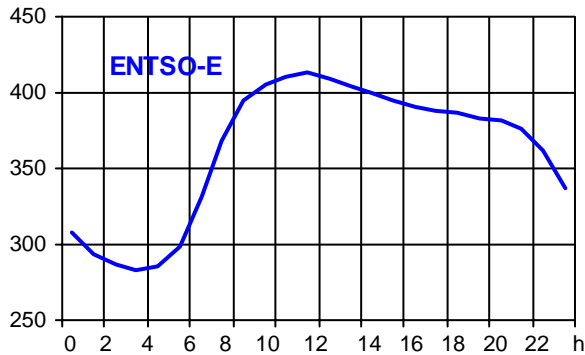
³ Only highest and lowest load value available

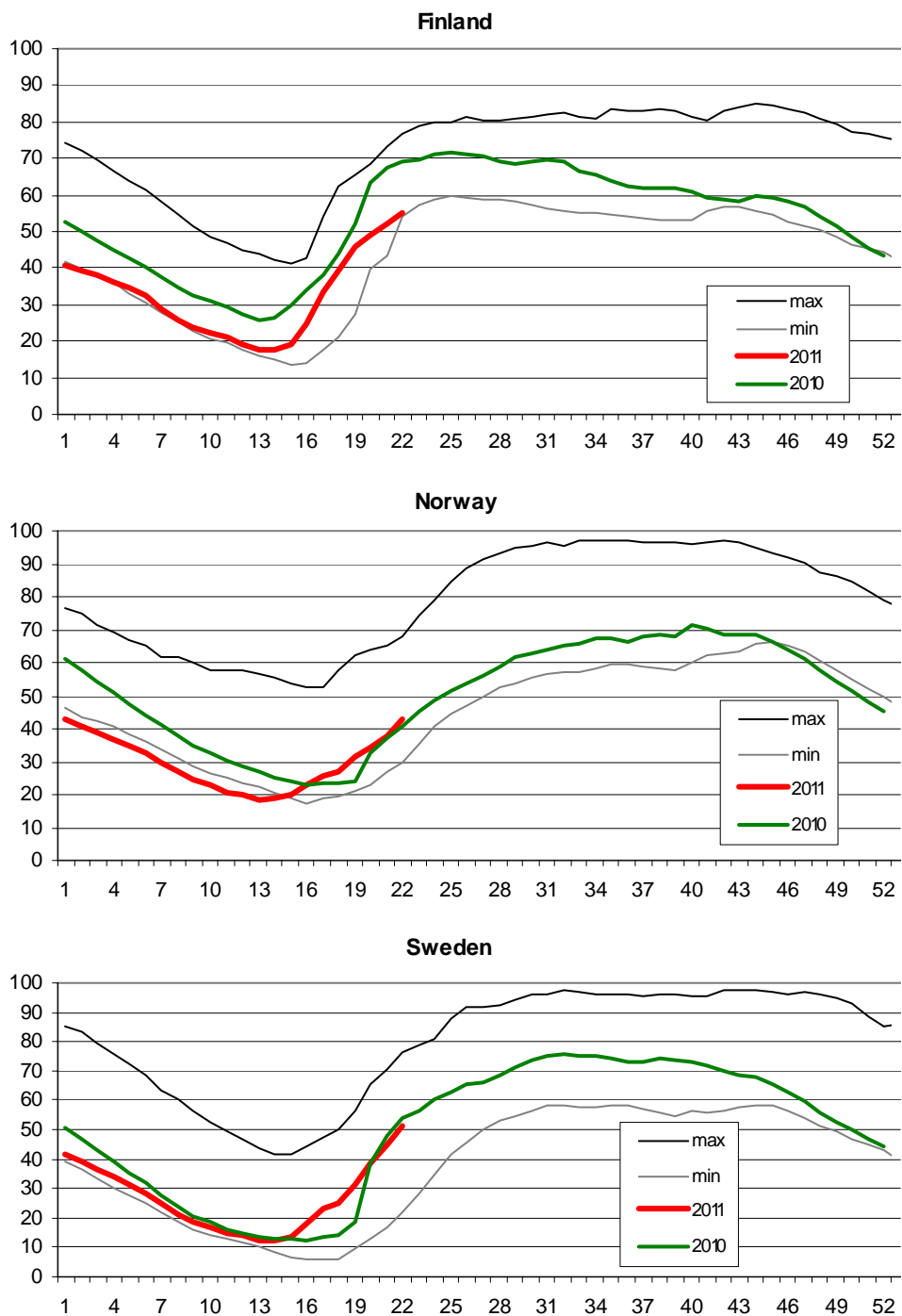
⁴ Monthly load values as of 19 May 2010

⁵ Operational data

Consumption hourly load curves on 18.05.2011 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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