



## May 2002

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<b>Table of contents</b>		<b>Page</b>
1	Electricity supply situation of the countries	2
2	Physical energy flows	3
3	Monthly consumption	4
4	Monthly consumption variation	5
5	Consumption of last 12 months	6
6	Variation of the last 12 months' consumption	7
7	Load flows (night)	8
8	Load flows (day)	9
9	Unavailability of international tie lines ( major events )	10
10	Network reliability ( major events )	12
11	Scheduled exchanges	13
12	Load on the 3 <sup>rd</sup> Wednesday	14

# 1

## Electricity supply situation of the countries

May 2002

Countries	B	D	E	F	GR	I	SLO	HR	YU <sup>4</sup>	L	NL	A	P	CH	CZ	H	PL	SK	UCTE
<b>Net production in GWh<sup>1</sup></b>																			
Hy	125	2314	2244	5474	197	5272	297	422	955	85	0	3313	445	3500	193	23	277	399	25535
Tn	3394	12315	4771	33503	-	-	157	0	0	0	335	0	0	2256	1462	925	0	1198	60316
Tc	2698	25225	10099	2623	3189	17372	423	295	2092	244	7030	505	2676	210	3688	1516	10089	664	90638
Total	6217 <sup>2</sup>	39854 <sup>2</sup>	17114 <sup>2</sup>	41600	3386 <sup>2</sup>	22644	877	717 <sup>2</sup>	3047	329	7365 <sup>2</sup>	3818	3121 <sup>2</sup>	5966 <sup>2</sup>	5343 <sup>2</sup>	2464 <sup>2</sup>	10366 <sup>2</sup>	2261 <sup>2</sup>	176489
<b>Exchange balance in GWh</b>																			
Imp. = +	604	1286	252	-7230	279	4043	78	376	130	304	1492	-58	179	-1135	-996	415	-426	-306	-713
Exp. = -																			
<b>Consumption of pumps in GWh</b>																			
	126	491	579	681	91	900	0	12	82	103	0	115	46	220	35	0	179	13	3673
<b>Consumption in GWh<sup>1</sup></b>																			
monthly	6695	40649	16787	33689	3574	25787	955	1081	3095	530	8857	3645	3254	4611	4312	2879	9761	1942	172103
$\Delta^3$ [%]	1,0	1,3	0,6	0,9	2,5	1,4	6,5	4,2	2,8	12,1	2,5	-12,5	0,2	2,4	0,1	0,0	-2,7	2,5	2,0
last 12 months	82847	497724	209153	437815	46998	307648	10848	14767	44828	6000	109095	51758	40365	58239	58361	36851	133165	25894	2172359
$\Delta^3$ [%]	-0,8	0,2	5,3	2,4	8,0	2,4	-0,4	7,1	3,5	2,8	5,6	-0,7	4,6	2,4	1,2	2,1	-1,6	1,8	2,0
<b>Energy capability factor</b>																			
	-	1,19	-	-	0,50	1,04	1,02	0,82	0,70	-	-	-	0,42	1,10	-	-	-	0,85	1,0

<sup>1</sup> Percentage as referred to total values in %

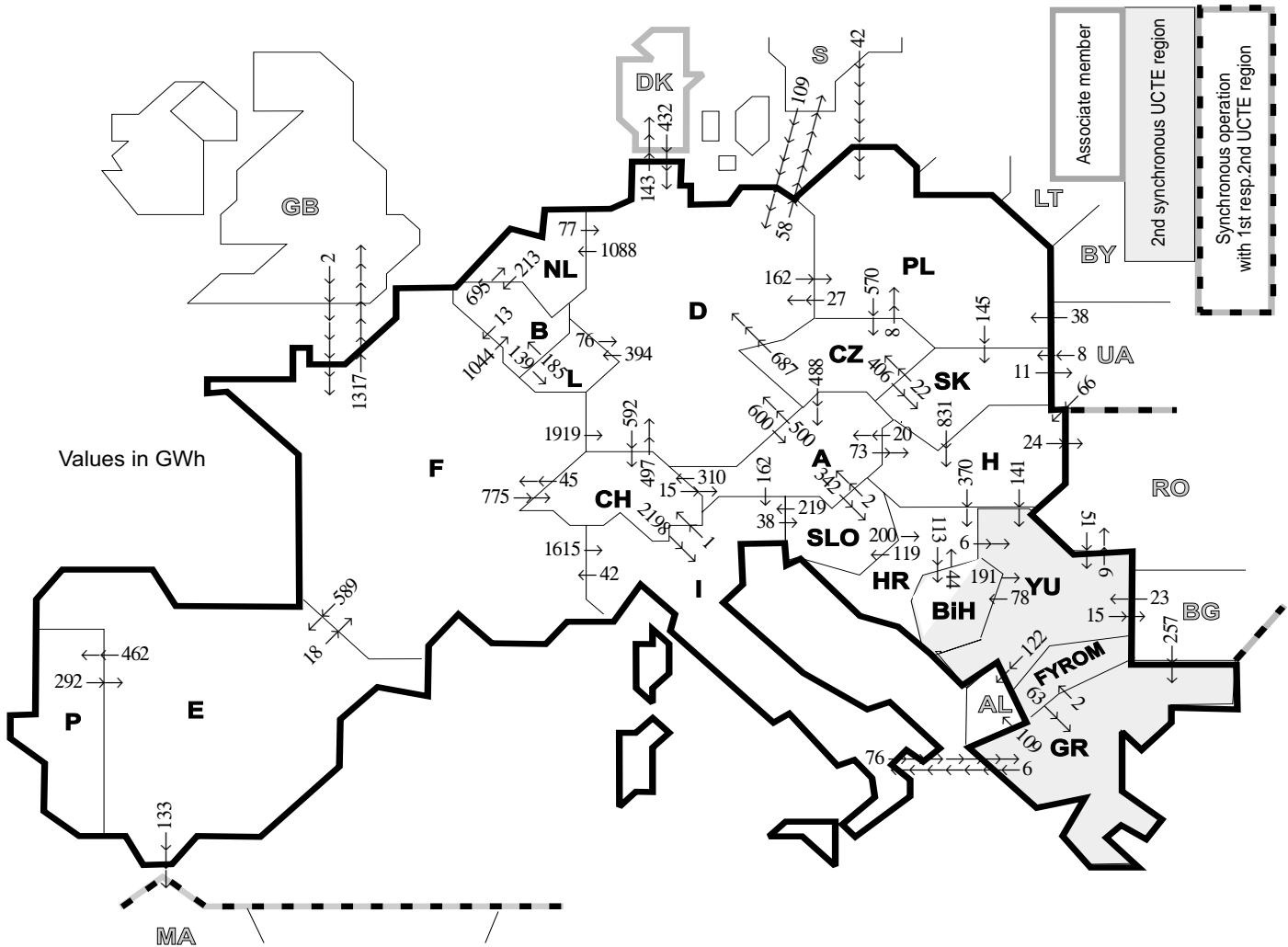
Countries	B	D	E	F	GR <sup>6</sup>	I	SLO	HR	YU	L	NL	A	P	CH	CZ	H	PL	SK
Production	100	93	94	97	91	100	95	100	96	98	100	84	91	100	100	100	100	100
Consumption	100	93	94	97	91	100	95	100	96	99	100	90	91	100	100	100	100	100

<sup>2</sup> Including deliveries from industry

<sup>3</sup> Variation as compared to corresponding period of the previous year and representativity 100%

<sup>4</sup> YU = FRY + FYROM (Federal Republic of Yugoslavia and Former Yugoslav Republic of Macedonia)

<sup>5</sup> The representativity of data referring to the whole country including the isolated systems of the Greek island is 91%. The representativity of data referring to the mainland interconnected system is 98%.



Exporting countries	Importing countries																				Σ Export
	B	D	E	F	GR	I	SLO	HR	BiH	YU	L	NL	A	P	CH	CZ	H	PL	SK	III <sup>1</sup>	
B	-	-	-	13	-	-	-	-	-	-	139	695	-	-	-	-	-	-	-	-	847
D	-	-	-	0	-	-	-	-	-	-	394	1088	600	-	592	1	-	162	-	201	3038
E	-	-	-	18	-	-	-	-	-	-	-	-	-	462	-	-	-	-	-	133	613
F	1044	1919	589	-	1615	-	-	-	-	-	-	-	-	-	775	-	-	-	-	1317	7259
GR	-	-	-	-	6	-	-	2	-	-	-	-	-	-	-	-	-	-	-	109	117
I	-	-	-	42	76	-	38	-	-	-	-	0	-	1	-	-	-	-	-	-	157
SLO	-	-	-	-	219	-	200	-	-	-	-	2	-	-	-	-	-	-	-	-	421
HR	-	-	-	-	-	-	119	113	6	-	-	-	-	-	-	-	0	-	-	-	238
BiH	-	-	-	-	-	-	44	-	191	-	-	-	-	-	-	-	-	-	-	-	235
YU	-	-	-	-	63	-	0	78	-	-	-	-	-	-	-	-	0	-	-	143	284
L	185	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	261
NL	213	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	290
A	-	500	-	-	162	342	-	-	-	-	-	-	-	-	310	0	73	-	-	-	1387
P	-	-	292	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	292
CH	-	497	-	45	2198	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	2755
CZ	-	687	-	-	-	-	-	-	-	-	-	-	488	-	-	-	-	8	406	-	1589
H	-	-	-	-	-	-	370	-	141	-	-	-	20	-	-	-	-	0	24	-	555
PL	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	570	-	145	0	-	742
SK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	831	0	-	11	864
III <sup>1</sup>	-	541	0	2	257	-	-	-	74	-	-	-	-	-	-	-	66	80	8	-	1028
<b>Σ Import</b>	<b>1442</b>	<b>4324</b>	<b>881</b>	<b>120</b>	<b>396</b>	<b>4200</b>	<b>499</b>	<b>614</b>	<b>191</b>	<b>414</b>	<b>533</b>	<b>1783</b>	<b>1125</b>	<b>462</b>	<b>1678</b>	<b>593</b>	<b>970</b>	<b>250</b>	<b>559</b>	<b>1938</b>	<b>22972</b>

Sum of physical energy flows between UCTE countries = 20006 GWh

Total physical energy flows = 22972 GWh

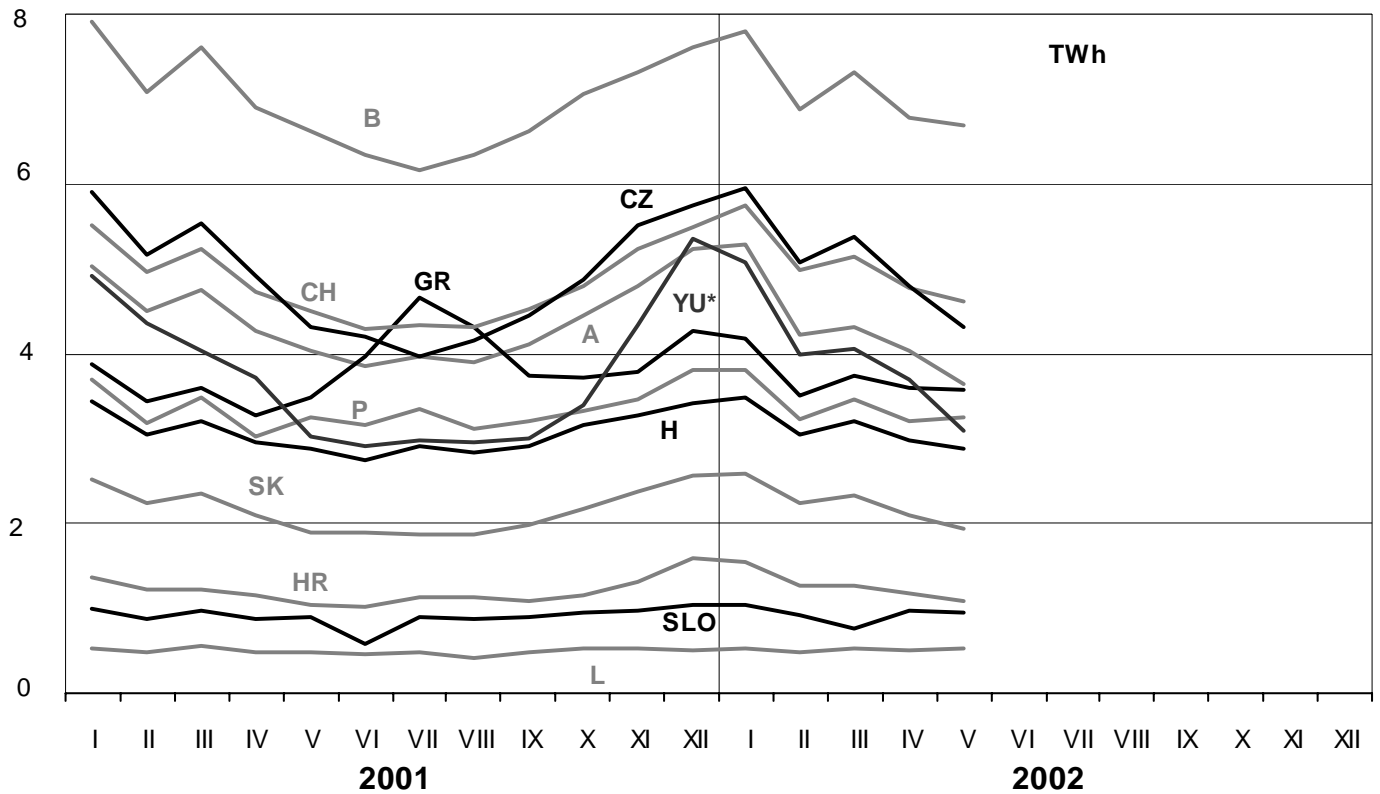
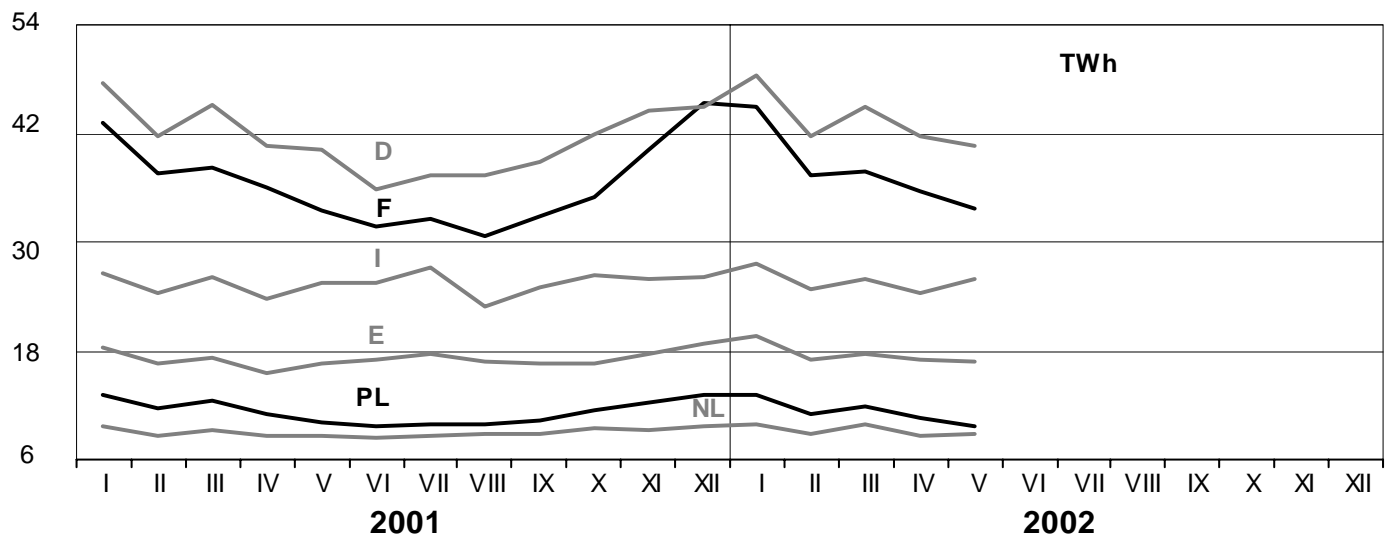
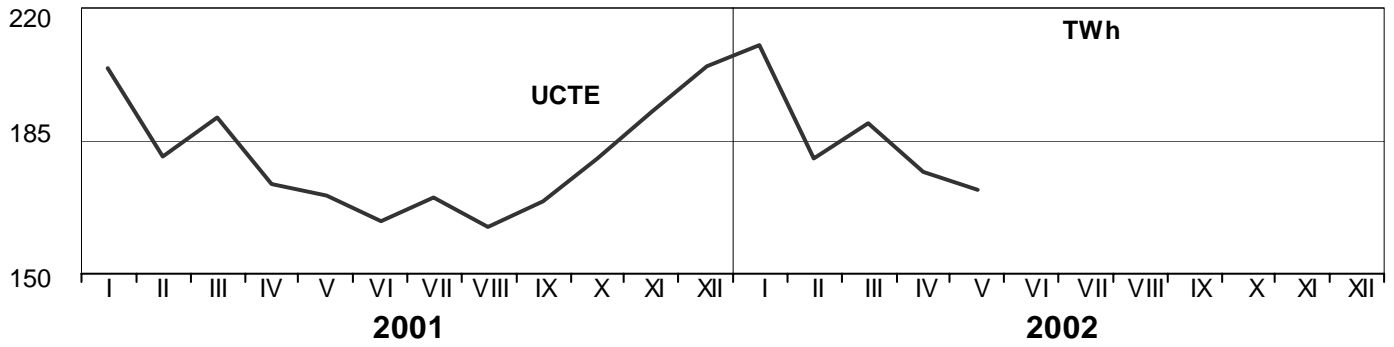
<sup>1</sup> III = Third countries: Albania, Belarus, Bulgaria, Denmark, Great Britain, Morocco, Rumania, Sweden and Ukraine

These physical energy flows were measured on the cross-frontier transmission lines (≥ 110 kV) listed in table 9 of the Statistical Yearbook. These values may differ from the official statistics and the exchange balances in chapter 1.

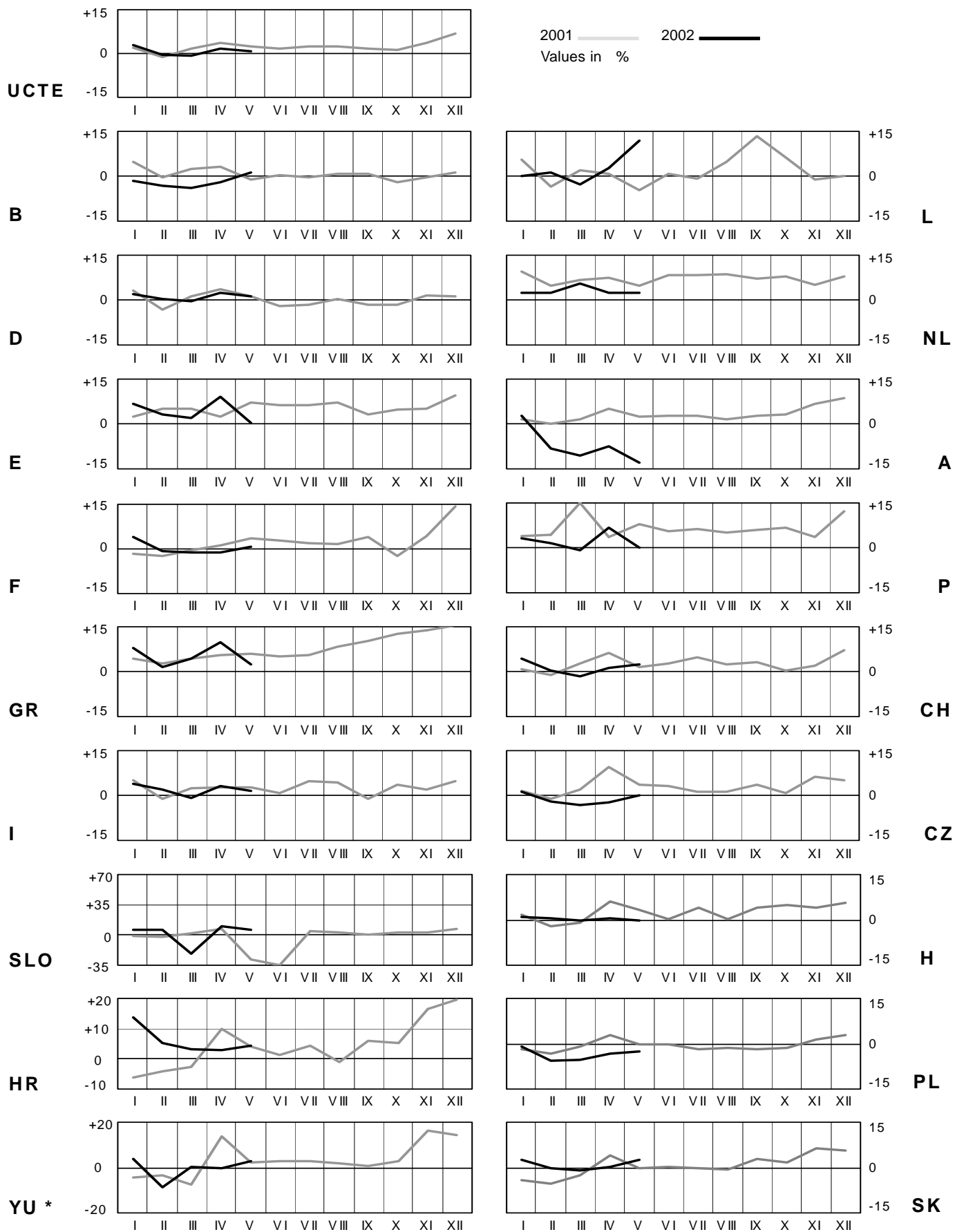
# 3

## Monthly consumption

May 2002



\* YU = FRY + FYROM (Federal Republic of Yugoslavia and Former Yugoslav Republic of Macedonia)

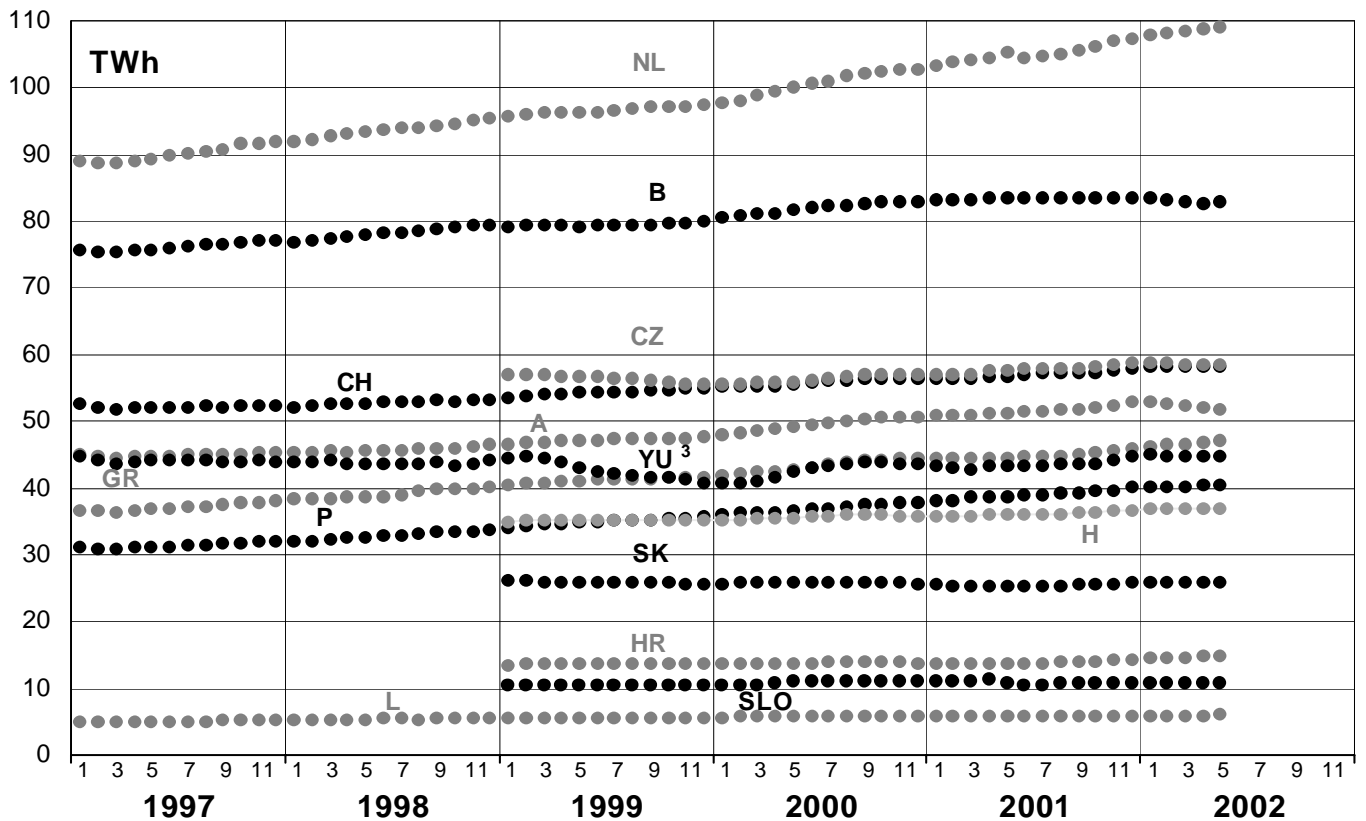
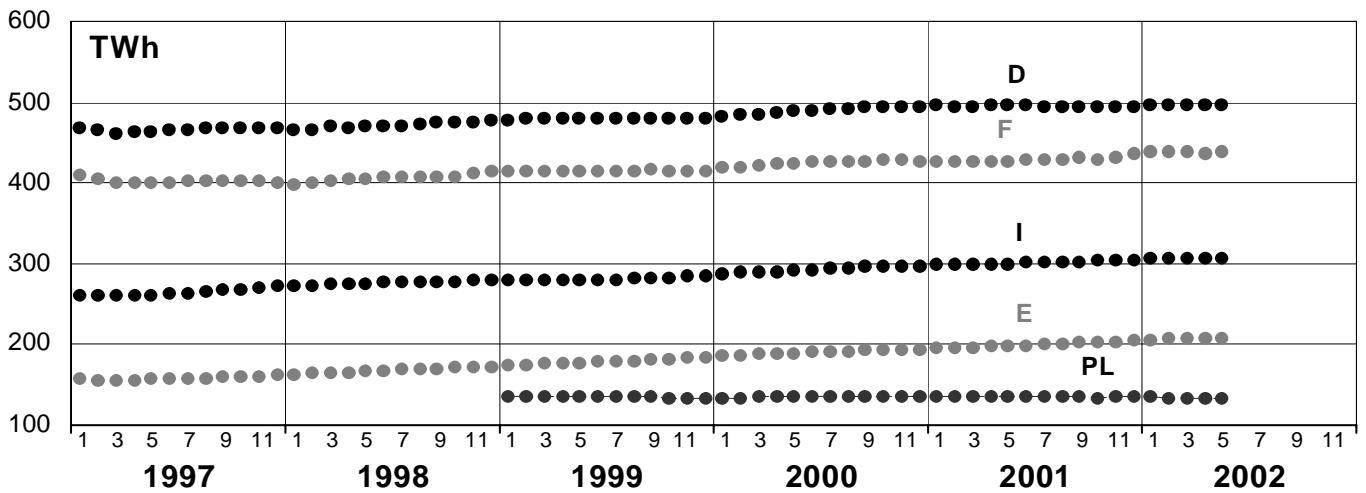
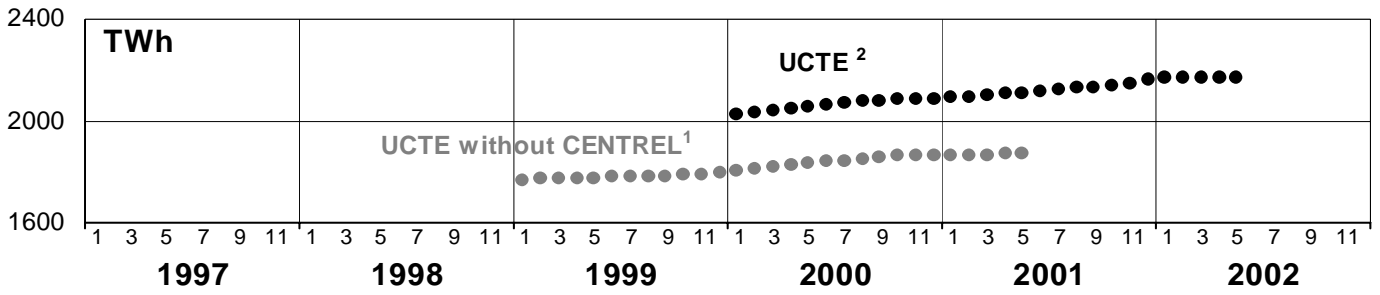


\* YU = FRY + FYROM (Federal Republic of Yugoslavia and Former Yugoslav Republic of Macedonia)

# 5

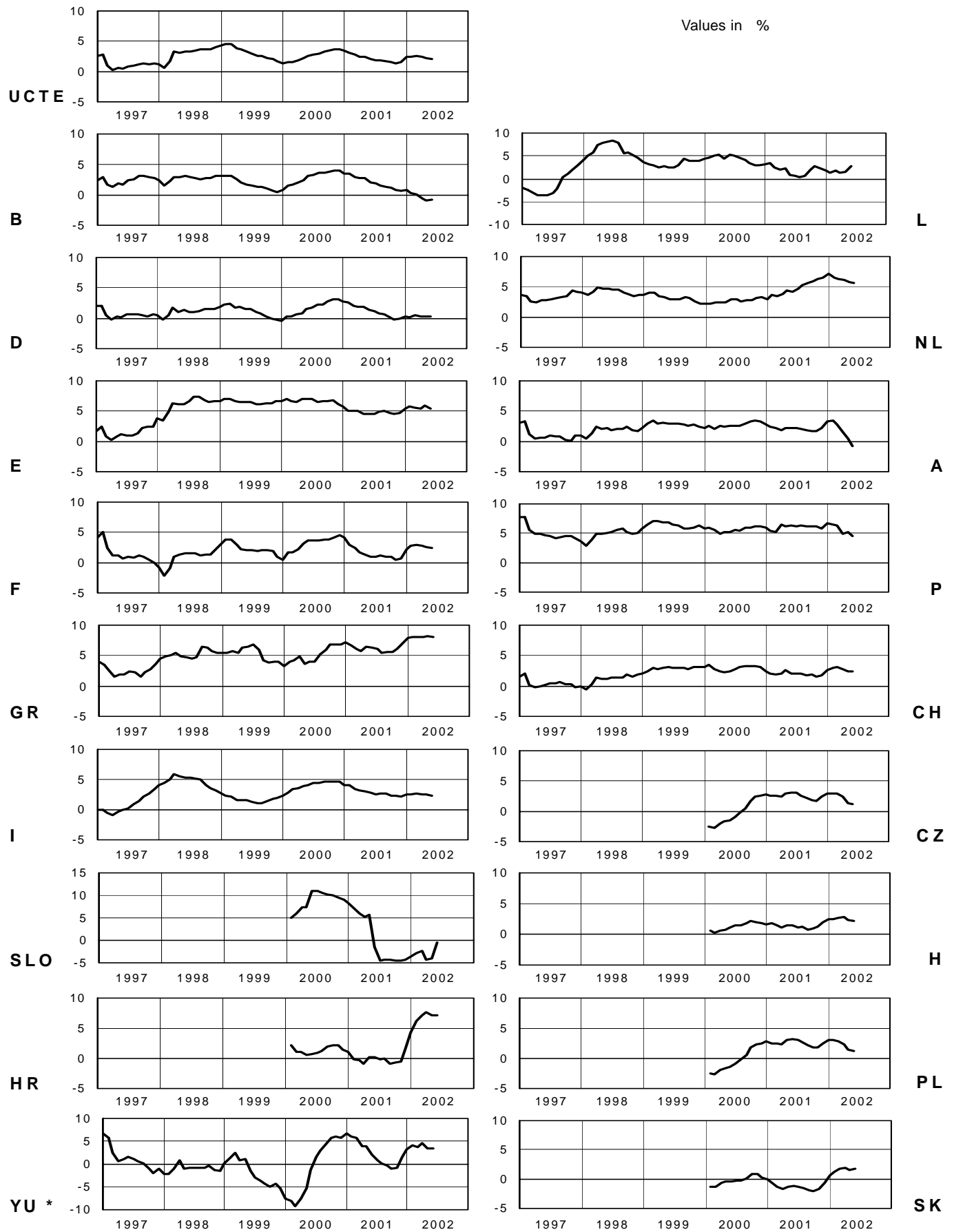
## Consumption of last 12 months

May 2002



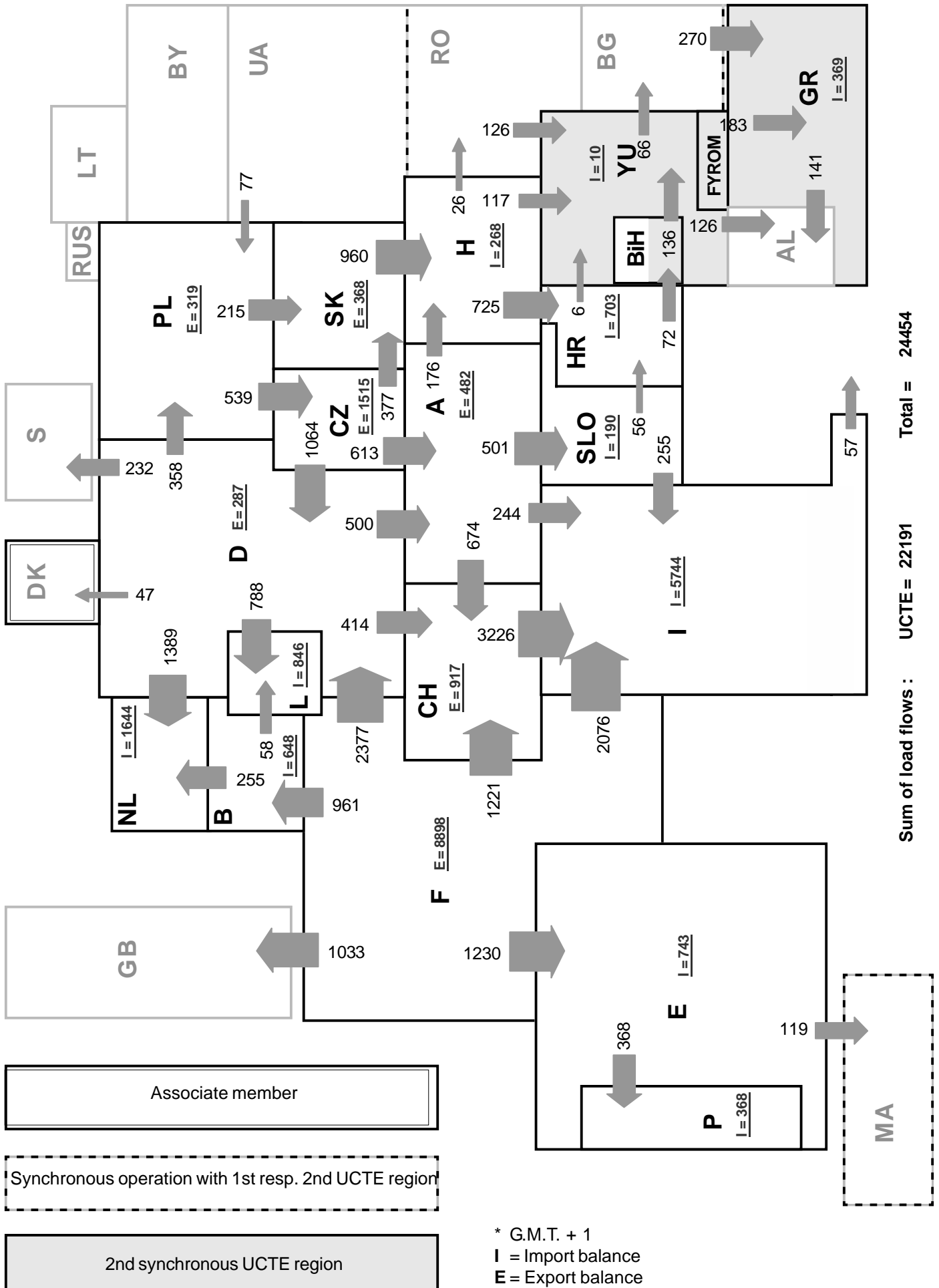
<sup>1</sup> CENTREL countries CZ, H, PL, SK member of UCTE from May 2001

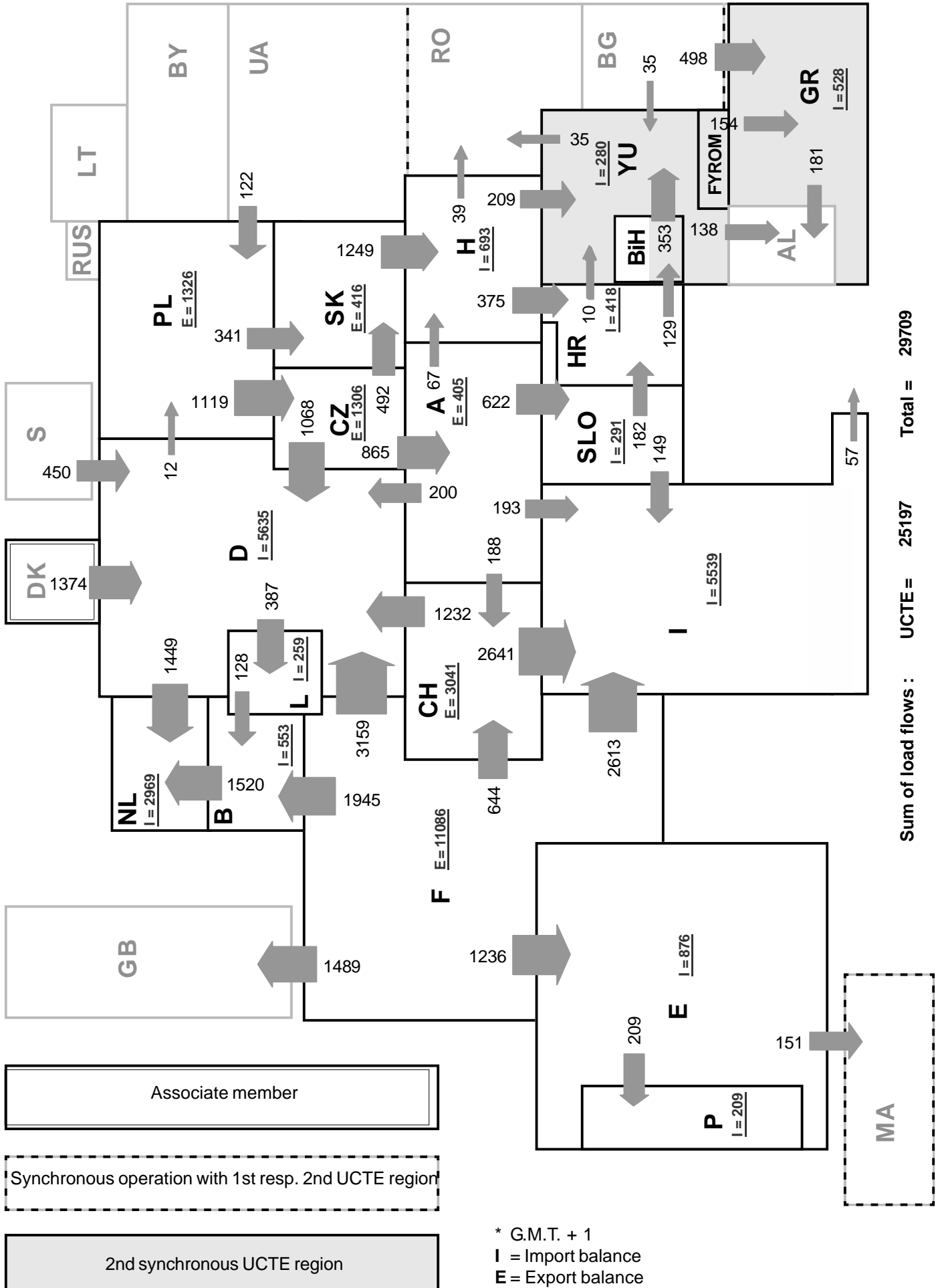
<sup>2</sup> YU = FRY + FYROM (Federal Republic of Yugoslavia and Former Yugoslav Republic of Macedonia)



\* YU = FRY + FYROM (Federal Republic of Yugoslavia and Former Yugoslav Republic of Macedonia)



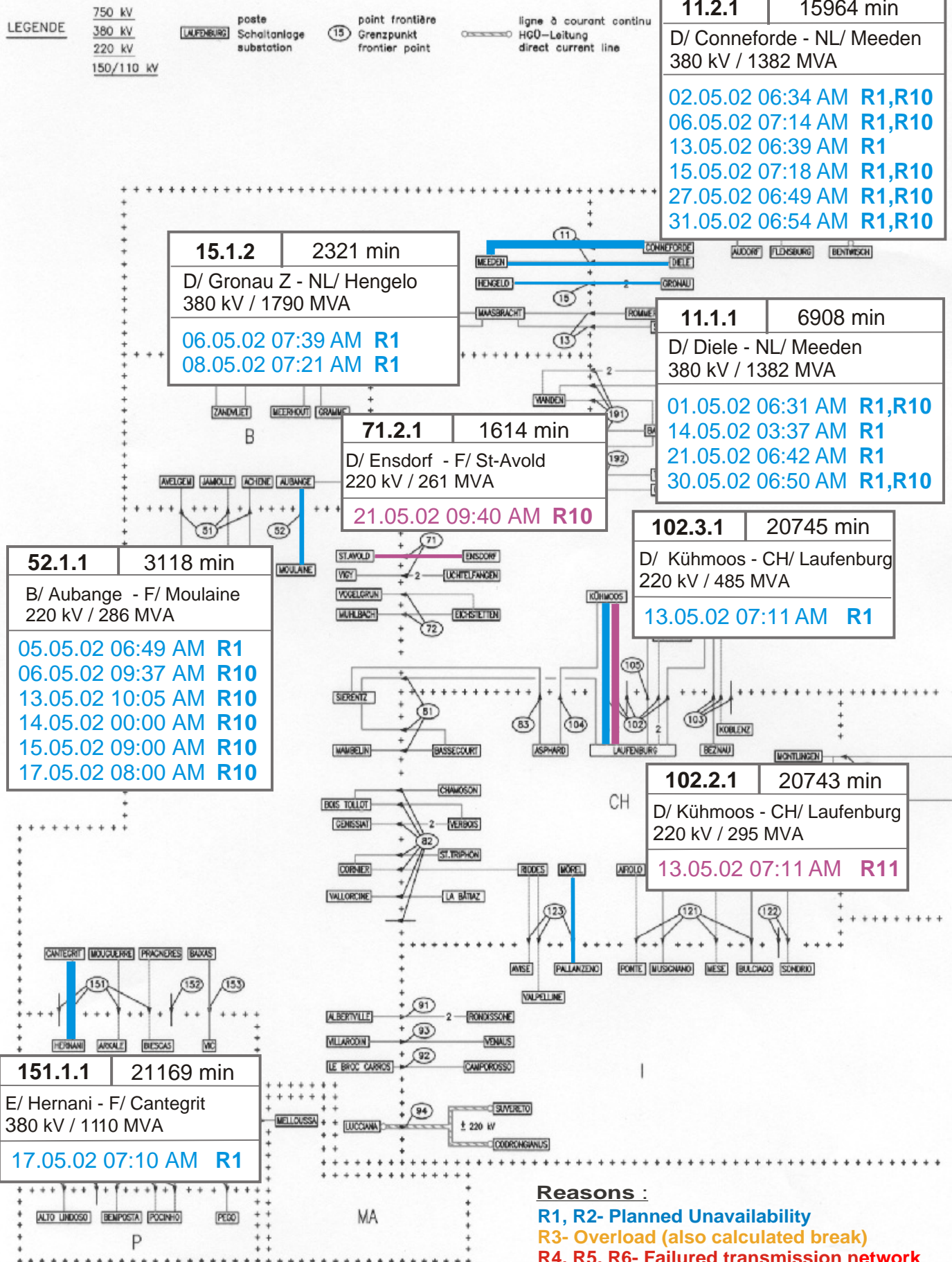




# 9

## Unavailability of international tie lines (major events with sum over 1500 minutes)

May 2002



<b>401.1.1</b>	8389 min
D/ Herrenwyk - S/ Kruseberg 450 kV / 600 MVA	
01.05.02 00:00 AM <b>R7</b>	
23.05.02 05:01 PM <b>R5</b>	

<b>111.2.1</b>	7565 min
A/ Bürs - D/ Herberlingen 380 kV / 389 MVA	
08.05.02 07:35 AM <b>R1</b>	
13.05.02 11:58 AM <b>R1</b>	

<b>111.3.1</b>	3538 min
A/ Bürs - D/ Dellmensingen 380 kV / 492 MVA	
06.05.02 07:54 AM <b>R1</b>	

<b>212.1.1</b>	6783 min
A/ Wien Süd-Ost - H/ Győr 380 kV / 1514 MVA	
27.05.02 06:57 AM <b>R1</b>	

<b>440.1.1</b>	25483 min
SK/ V.Kapusany - UA/ Muakoevo 400 kV / 1400 MVA	
14.05.02 07:16 AM <b>R1</b>	

<b>111.1.2</b>	3367 min
A/ Bürs - D/ Obermooweiler 380 kV / 1369 MVA	
21.05.02 08:57 AM <b>R1</b>	

<b>211.1.2</b>	3424 min
A/ Neusiedl - H/ Győr 220 kV / 305 MVA	
21.05.02 07:53 AM <b>R11</b>	

<b>721.1.1</b>	25480 min
H/ Sajószöged - UA/ Mukacevo 400 kV / 1385 MVA	
14.05.02 07:20 AM <b>R11</b>	

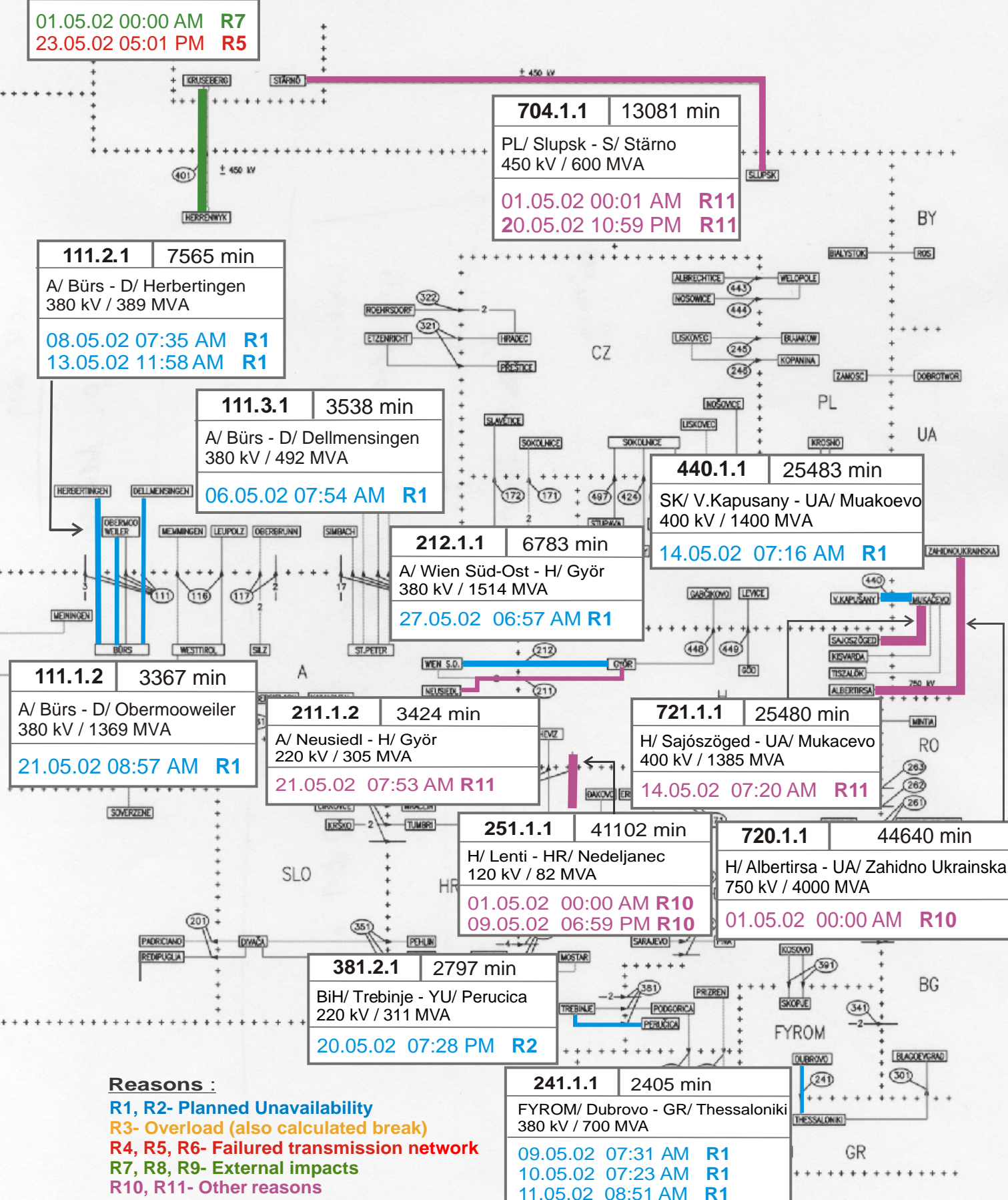
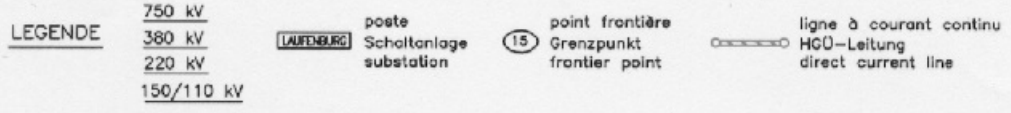
<b>251.1.1</b>	41102 min
H/ Lenti - HR/ Nedeljanec 120 kV / 82 MVA	
01.05.02 00:00 AM <b>R10</b>	
09.05.02 06:59 PM <b>R10</b>	

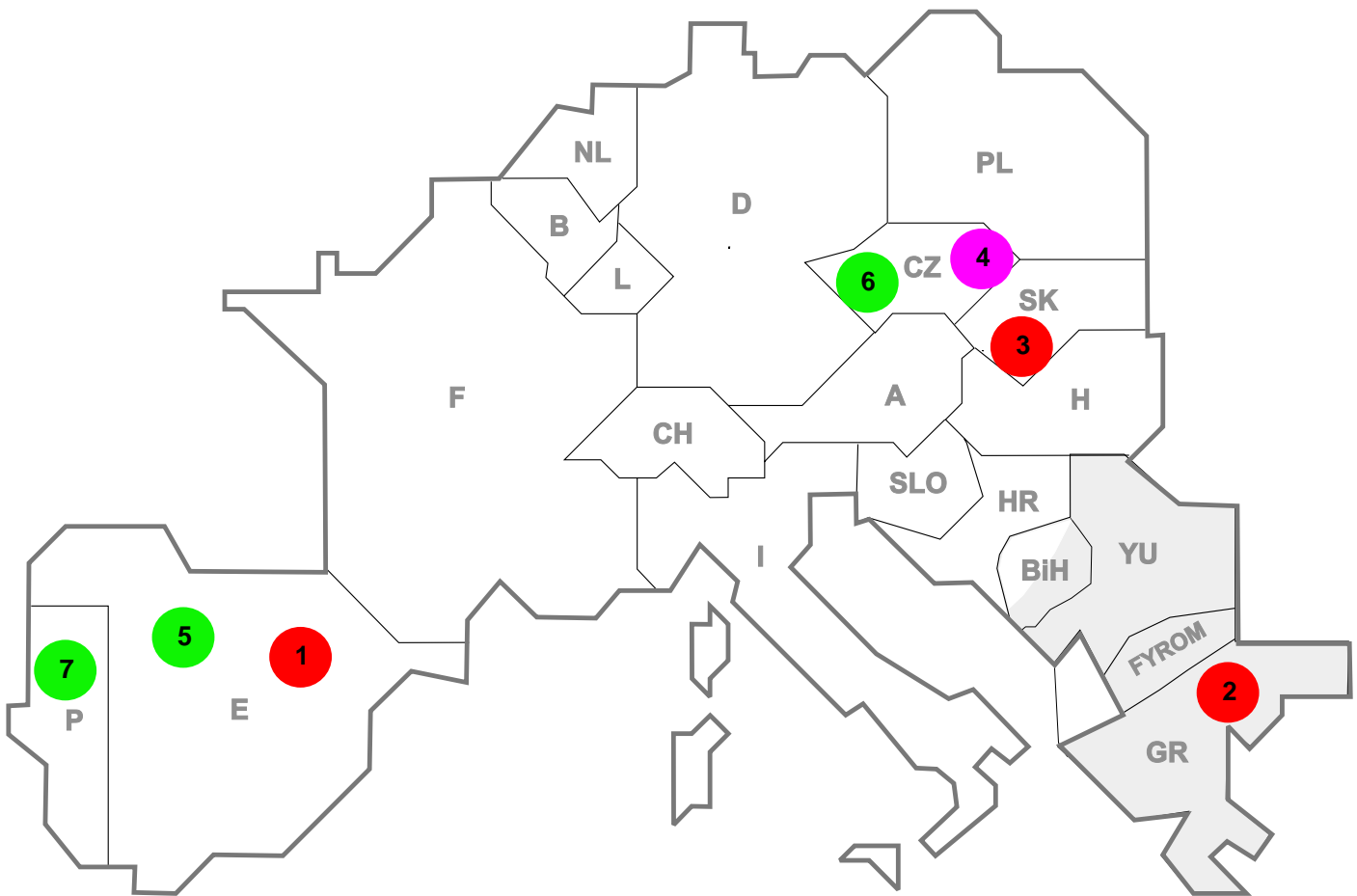
<b>720.1.1</b>	44640 min
H/ Albertirsa - UA/ Zahidno Ukrainska 750 kV / 4000 MVA	
01.05.02 00:00 AM <b>R10</b>	

<b>381.2.1</b>	2797 min
BiH/ Trebinje - YU/ Perucica 220 kV / 311 MVA	
20.05.02 07:28 PM <b>R2</b>	

<b>241.1.1</b>	2405 min
FYROM/ Dubrovo - GR/ Thessaloniki 380 kV / 700 MVA	
09.05.02 07:31 AM <b>R1</b>	
10.05.02 07:23 AM <b>R1</b>	
11.05.02 08:51 AM <b>R1</b>	
12.05.02 08:56 AM <b>R1</b>	
13.05.02 07:35 AM <b>R1</b>	

- Reasons :**
- R1, R2- Planned Unavailability**
  - R3- Overload (also calculated break)**
  - R4, R5, R6- Failed transmission network**
  - R7, R8, R9- External impacts**
  - R10, R11- Other reasons**





Reasons:

**R3** Overload

**R4, R5, R6** Failure in the transmission network

**R7, R8, R9** External impacts (animals...)

**R10, R11** Other reasons

nbr	Country	Substation	Reason	Energie not supplied [ MWh ]	Total loss of power [ MW ]	Restoration time [ min ]	Equivalent time of interruption <sup>1</sup>
1	E	Zumarraga	R6	149	0	71	0,00
2	GR	Ag.Stefanos	R4	130	370	10	4,14
3	SK	Sucany	R6	46	75	23	1,52
4	CZ	Chotejovice	R10	45	123	236	1,11
5	E	Los Ramos	R5	18	0	9	0,00
6	CZ	Slavetice	R7	7	0	5	0,00
7	P	Mogadouro	R8	4	0	94	0,00

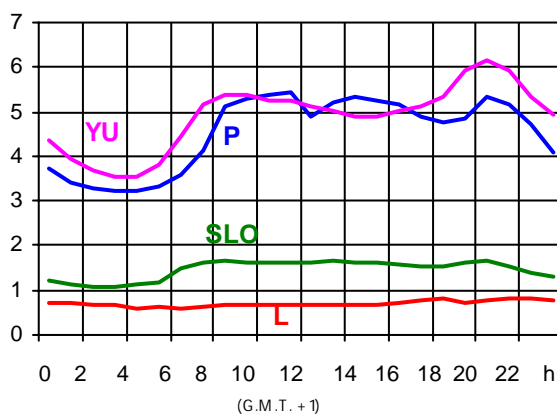
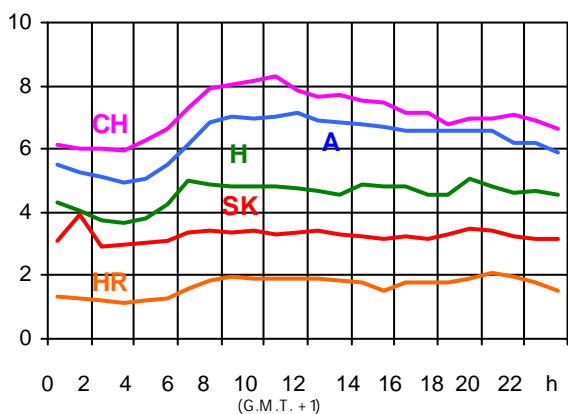
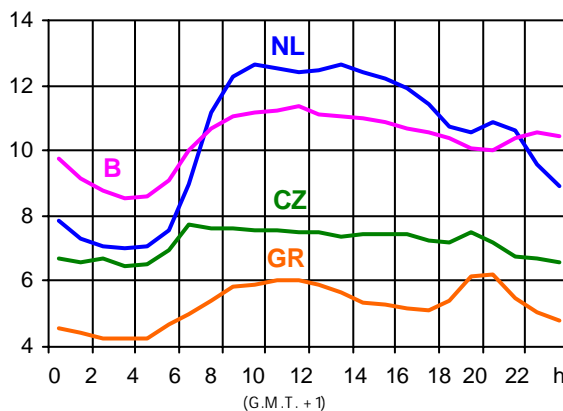
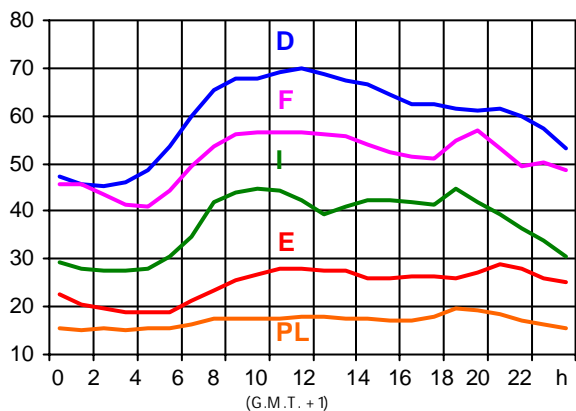
<sup>1</sup> ( year [in min] \* power loss ) / consumption last 12 months

Control area	Prog_exp	Prog_imp	Prog_exp3	Prog_imp3	Prog_exp11	Prog_imp11
B	284705	985736	106	1059	237	987
D	1760319	2802449	1797	2793	2233	6413
E	322444	572929	299	1200	351	1200
F	8303136	1192071	10015	1200	12220	1366
GR	10200	304199	50	384	50	575
I	157365	4200448	106	5876	144	5661
SLO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
HR	119179	493063	128	766	210	635
YU	284101	413796	503	500	470	819
NL	595745	2092643	1154	2815	240	3234
A	907866	850863	860	1150	890	1633
P	26591	196952	0	205	0	217
CH	2989305	1924832	3434	2469	5678	3193
CZ	1257117	213749	1814	265	1504	230
H	590082	984659	838	1100	795	1465
PL	499488	104032	312	77	1340	122
SK	585088	252332	760	330	890	470

- Control areas can differ from national borders ( i.e. German block which includes parts of A, L and DK ).
- Values are calculated on an hourly base ( MWh ).
- This values are not the provisional values entered in the VULCANUS system, but the definitive values after an eventual correction during the actual date.
- Prog\_exp: Sum of all positive values of every hour of every border
- Prog\_imp: Sum of all negative values of every hour of every border
- Prog\_exp3: Sum of all positive values the third Wednesday from 02:00 to 03:00 a.m.
- Prog\_imp3: Sum of all negative values the third Wednesday from 02:00 to 03:00 a.m.
- Prog\_exp11: Sum of all positive values the third Wednesday from 10:00 to 11:00 a.m.
- Prog\_imp11: Sum of all negative values the third Wednesday from 10:00 to 11:00 a.m.
- YU = FRY + FYROM (Federal Republic of Yugoslavia and Former Yugoslav Republic of Macedonia)

### Consumption hourly load curves<sup>1</sup> on 17.04.02

Values in GW



#### Peak load on 3<sup>rd</sup> Wednesday<sup>1</sup>

17.04.02	B	D	E	F	GR	I	SLO	HR	YU <sup>5</sup>	L	NL	A	P	CH	CZ	H	PL	SK	UCTE
MW	11391	69800	29301	60291	6225	45167	1660	2084	6135	808	12696	7457	5427	8504	7741	5083	18070	3500	293813
Δ % <sup>2</sup>	-3,5	1,0	7,9	-1,2	7,7	1,5	5,9	-3,2	-3,2	-0,4	1,7	5,5	5,1	0,1	-6,1	0,0	-1,7	1,0	-0,1

#### Power produced in parallel operation<sup>3</sup>

17.04.02	B	D	E	F	GR	I	SLO	HR	YU <sup>5</sup>	L	NL	A	P	CH	CZ	H	PL	SK	Others <sup>4</sup>	UCTE
MW	10178	76200	26554	70462	5569	37884	1934	1913	4620	627	10370	6690	5613	10324	8730	4052	18492	3928	1930	293816

<sup>1</sup> Percentage as referred to total values in %

B	D	E	F	GR <sup>6</sup>	I	SLO	HR	YU <sup>5</sup>	L	NL	A	P	CH	CZ	H	PL	SK
100	91	94	97	91	100	95	100	96	99	90	82	87	100	100	100	100	100

<sup>2</sup> Variation as compared to corresponding month of the previous year

<sup>3</sup> Including autoproduction

<sup>4</sup> Denmark (Jutland)

<sup>5</sup> YU = FRY + FYROM (Federal Republic of Yugoslavia and Former Yugoslav Republic of Macedonia)

<sup>6</sup> The representativity of data referring to the whole country including the isolated systems of the Greek island is 91%.

The representativity of data referring to the mainland interconnected system is 98%.

Existing lines with towers for lines with 2 circuits mounted

	B	D	E	F	GR	I	SLO	HR	JEL	L	NL	A	P	CH	CZ	H	PL	SK	CYPR	
2011	8940	52	3880	-67511	228	4845	1757	-258	-548	1231	325	1728	140	180	-694	828	3125	-7384	-3851	-3273
2008	4203	108	4787	-42843	180	4428	1345	807	-105	3115	3677	1819	-175	822	-5722	-10316	438	-811	-3271	-8528

	F	I	SLO	HR	JIEL	L	NL	A	P	CH	CZ	H	PL	SK
B	2/2					2/-	-/4							
D	2/4					8/-	-/8	9/3		5/7	-/4			
E	2/2								3/2					
	F	3/3								5/5				
	GR	-/1			-/1									
		I	1/1					1/-		6/2				
			SLO	2/3				1/2						
				HR	7/3									
									JIEL					
									A	1/2	2/1	2/1		
													CZ	2/2
													H	-/2
													PL	-/2



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