

UCTE



September 2003

Monthly provisional values

union for the co-ordination of transmission of electricity

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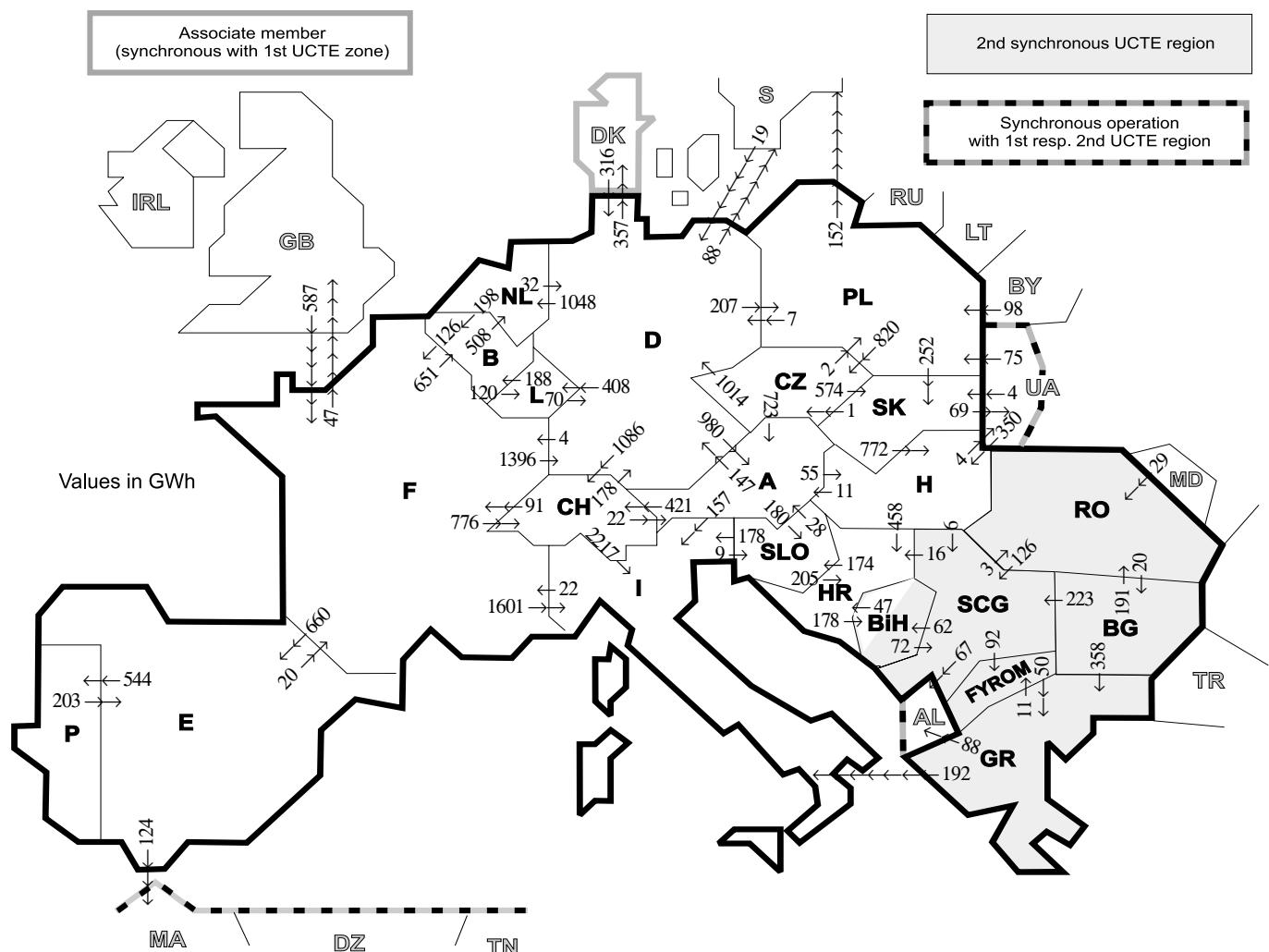
¹ Monthly provisional values as of UCTE database as of 17 December 2003

| Countries | Net production in GWh ¹ | | | | Exchange balance in GWh | Pump in GWh | Consumption in GWh ¹ | | | | last 12 months | Δ ³ [%] |
|-----------------|------------------------------------|-------|--------|---------------------|----------------------------|----------------|---------------------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | Hy | Tn | Tc | Total | | | monthly | Δ ³ [%] | last 12 months | Δ ³ [%] | | |
| B | 49 | 3762 | 2625 | 6436 ² | 291 | 58 | 6669 | 0,4 | 84518 | 1,2 | | |
| D | 1389 | 12998 | 27739 | 42126 ² | -999 | 701 | 40426 | 2,3 | 507851 | 2,2 | | |
| E | 1975 | 4126 | 12126 | 18227 ² | 160 | 437 | 17950 | 6,0 | 219676 | 4,1 | | |
| F | 3199 | 31457 | 3365 | 38021 | -4422 | 614 | 32985 | 1,7 | 444293 | 1,8 | | |
| GR | 291 | 0 | 3598 | 3889 ² | 116 | 81 | 3924 | 6,0 | 49406 | 3,2 | | |
| I | 2631 | 0 | 20000 | 22631 | 4314 | 769 | 26176 | 1,5 | 319134 | 3,2 | | |
| SLO | 184 | 453 | 321 | 958 | -46 | 0 | 912 | -7,3 | 12212 | 5,4 | | |
| HR | 166 | 0 | 832 | 998 ² | 144 | 8 | 1134 | 3,3 | 15196 | 1,8 | | |
| BiH | 176 | 0 | 455 | 631 | 113 | 0 | 744 | n.a. | n.a. | n.a. | | |
| FYROM | 28 | 0 | 415 | 443 ² | 2 | 0 | 445 | n.a. | n.a. | n.a. | | |
| SCG | 366 | 0 | 2130 | 2496 | 181 | 66 | 2611 | n.a. | n.a. | n.a. | | |
| L | 75 | 0 | 247 | 322 | 270 | 97 | 495 | 2,3 | 6086 | 0,2 | | |
| NL | 0 | 195 | 7479 | 7674 ² | 1326 | 0 | 9000 | 1,6 | 109874 | 4,3 | | |
| A | 2155 | 0 | 1319 | 3474 | 803 | 232 | 4045 | 1,8 | 51581 | 1,0 | | |
| P | 589 | 0 | 2602 | 3191 ² | 351 | 33 | 3509 | 7,9 | 42412 | 2,5 | | |
| CH | 2633 | 2251 | 225 | 5109 ² | -325 | 257 | 4527 | -0,7 | 59015 | 2,7 | | |
| CZ | 104 | 2192 | 3653 | 5949 ² | -1492 | 51 | 4406 | 0,5 | 59783 | 3,8 | | |
| H | 8 | 725 | 1580 | 2313 ² | 698 | 0 | 3011 | 0,8 | 38245 | 1,1 | | |
| PL ⁵ | 193 | 0 | 11417 | 11610 ² | -850 | 186 | 10574 | 1,5 | 138328 | 1,2 | | |
| SK | 178 | 1271 | 540 | 1989 ² | -13 | 30 | 1946 | -2,2 | 26319 | 5,4 | | |
| UCTE | 17142 | 60733 | 107459 | 185334 ² | -57 | 3665 | 181612 | 2,6 | 2233995 | 0,1 | | |
| RO | 576 | 168 | 2803 | 3547 ² | 77 | 0 | 3624 | n.a. | n.a. | n.a. | | |
| BG | 177 | 1135 | 1988 | 3300 ² | -756 | 45 | 2499 | n.a. | n.a. | n.a. | | |
| West-UA | 2 | 0 | 558 | 560 ² | -277 | 0 | 283 | n.a. | n.a. | n.a. | | |

¹ Percentage as referred to total values in %

| Countries | B | D | E | F | GR ⁴ | I | SLO | HR | BiH | FY-ROM | SCG | L | NL | A | P | CH | CZ | H | PL | SK | RO | BG | West-UA |
|-------------|----|----|----|----|-----------------|-----|-----|-----|-----|--------|-----|----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|---------|
| Production | 99 | 94 | 94 | 97 | 93 | 100 | 95 | 100 | 99 | 100 | 96 | 98 | 100 | 84 | 91 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Consumption | 99 | 94 | 94 | 97 | 93 | 100 | 95 | 100 | 99 | 100 | 96 | 99 | 100 | 90 | 91 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |

² Including deliveries from industry³ Variation as compared to corresponding period of the previous year and representativity 100%⁴ The representativity of data referring to the whole country including the isolated systems of the Greek island is 93%.
The representativity of data referring interconnected system on the mainland is 99%.⁵ Production values are gross values.



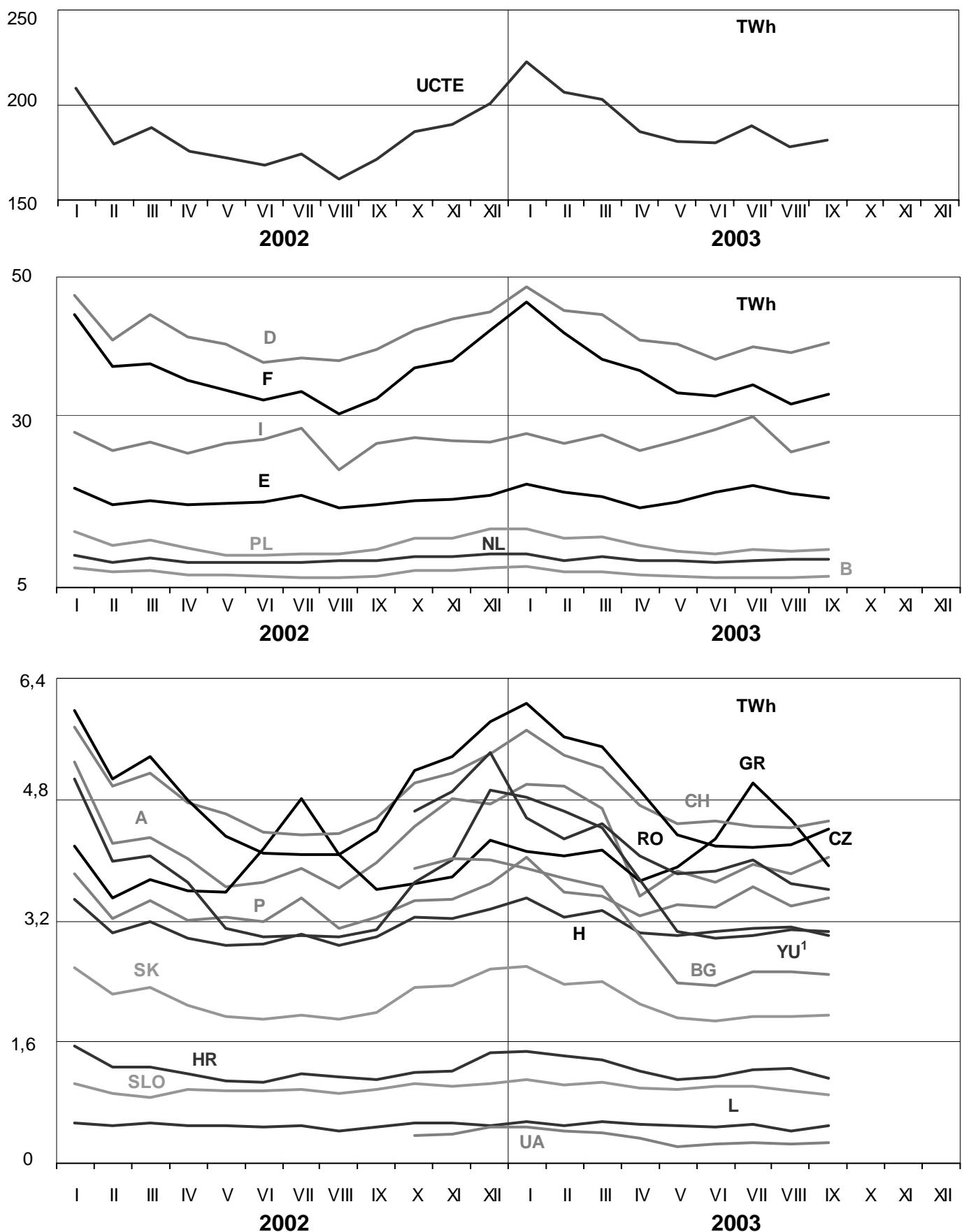
| Exporting countries | Importing countries | | | | | | | | | | | | | | | | | | | | Σ Export | | | | | |
|---------------------|---------------------|------|-----|-----|-----|------|-----|-----|-----|--------|-----|------|------|------|------|------|-----|------|-----|-----|-----------------|-----|---------|-----------------|------------------|-------|
| | B | D | E | F | GR | I | SLO | HR | BIH | FY-ROM | SCG | L | NL | A | P | CH | CZ | H | PL | SK | RO | BG | West-UA | DK ² | III ¹ | |
| B | - | - | - | 126 | - | - | - | - | - | - | 120 | 508 | - | - | - | - | - | - | - | - | - | - | - | 754 | | |
| D | - | - | - | 4 | - | - | - | - | - | - | 408 | 1048 | 980 | - | 1086 | 0 | - | 207 | - | - | - | 357 | 445 | 4535 | | |
| E | - | - | - | 20 | - | - | - | - | - | - | - | - | - | 544 | - | - | - | - | - | - | - | - | 124 | 688 | | |
| F | 651 | 1396 | 660 | - | - | 1601 | - | - | - | - | - | - | - | - | - | 776 | - | - | - | - | - | - | 47 | 5131 | | |
| GR | - | - | - | - | - | 192 | - | - | - | - | 11 | - | - | - | - | - | - | - | - | - | - | - | 0 | 88 | | |
| I | - | - | - | 22 | 0 | 9 | - | - | - | - | - | - | - | 0 | - | 0 | - | - | - | - | - | - | - | 31 | | |
| SLO | - | - | - | - | - | 178 | 205 | - | - | - | - | - | - | 28 | - | - | - | - | - | - | - | - | - | 411 | | |
| HR | - | - | - | - | - | - | 174 | 178 | - | - | 0 | - | - | - | - | - | - | 0 | - | - | - | - | - | 352 | | |
| BIH | - | - | - | - | - | - | - | 47 | - | - | 72 | - | - | - | - | - | - | - | - | - | - | - | - | 119 | | |
| FYROM | - | - | - | - | 50 | - | - | - | - | - | 0 | - | - | - | - | - | - | - | - | - | - | - | - | 50 | | |
| SCG | - | - | - | - | - | - | - | 16 | 62 | 92 | - | - | - | - | - | - | 0 | - | 3 | 0 | - | - | 67 | | | |
| L | 188 | 70 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 258 | | |
| NL | 198 | 32 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 230 | | |
| A | - | 147 | - | - | - | 157 | 180 | - | - | - | - | - | - | 421 | 0 | 55 | - | - | - | - | - | - | - | 960 | | |
| P | - | - | 203 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 203 | | |
| CH | - | 178 | - | 91 | - | 2217 | - | - | - | - | - | 22 | - | - | - | - | - | - | - | - | - | - | - | 2508 | | |
| CZ | - | 1014 | - | - | - | - | - | - | - | - | - | 723 | - | - | - | 2 | 574 | - | - | - | - | - | - | 2313 | | |
| H | - | - | - | - | - | - | 458 | - | - | 6 | - | 11 | - | - | - | - | 0 | 0 | - | 4 | - | 4 | 483 | | | |
| PL | - | 7 | - | - | - | - | - | - | - | - | - | - | - | 820 | - | - | 252 | - | - | 0 | - | 152 | 1231 | | | |
| SK | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 772 | 0 | - | - | - | 69 | - | 69 | 911 | | | |
| RO | - | - | - | - | - | - | - | - | - | - | 126 | - | - | - | 0 | - | - | 20 | - | - | - | - | 0 | 146 | | |
| BG | - | - | - | - | 358 | - | - | - | - | 0 | 223 | - | - | - | - | - | - | - | 191 | - | - | - | 0 | 772 | | |
| West-UA | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 350 | 75 | 4 | 0 | - | - | - | - | - | 429 | | |
| DK ² | - | 316 | - | - | - | - | - | - | - | - | - | - | - | - | - | 350 | 173 | 4 | 29 | 0 | - | - | - | 316 | | |
| III ¹ | - | 19 | 0 | 587 | 0 | - | - | - | - | 0 | - | - | - | - | - | 350 | 173 | 4 | 29 | 0 | - | - | - | 1162 | | |
| Σ Import | 1037 | 3179 | 863 | 850 | 408 | 4345 | 363 | 726 | 240 | 103 | 427 | 528 | 1556 | 1764 | 544 | 2283 | 821 | 1177 | 382 | 830 | 223 | 20 | 73 | 357 | 996 | 24524 |

Sum of physical energy flows between UCTE countries = 21264 GWh

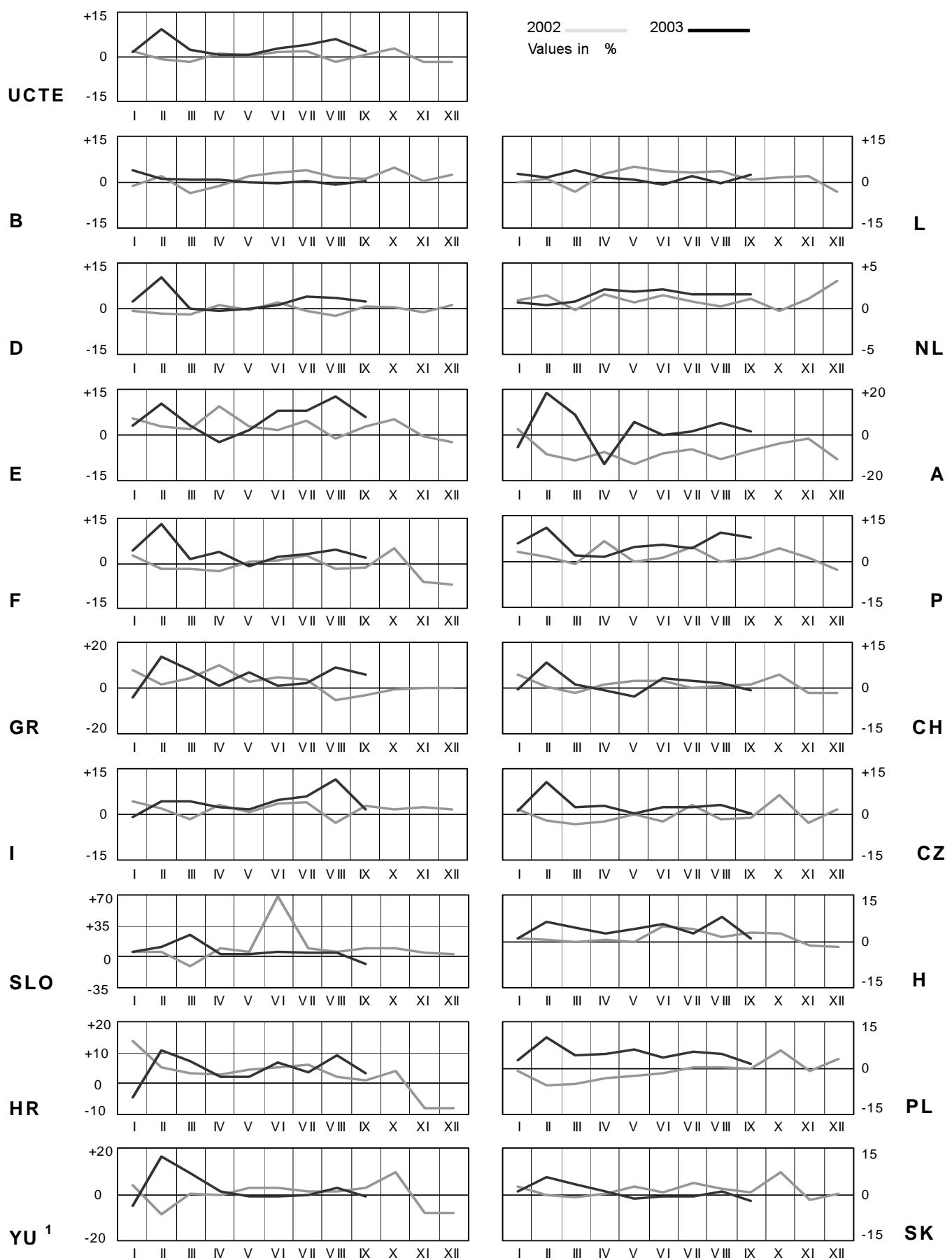
Total physical energy flows = 23665 GWh

¹ III = Third countries: Albania, Belarus, Denmark, Great Britain, Morocco, Republic of Moldavia, Sweden, Republic of Turkey and West-Ukraina² Denmark (Jutland)

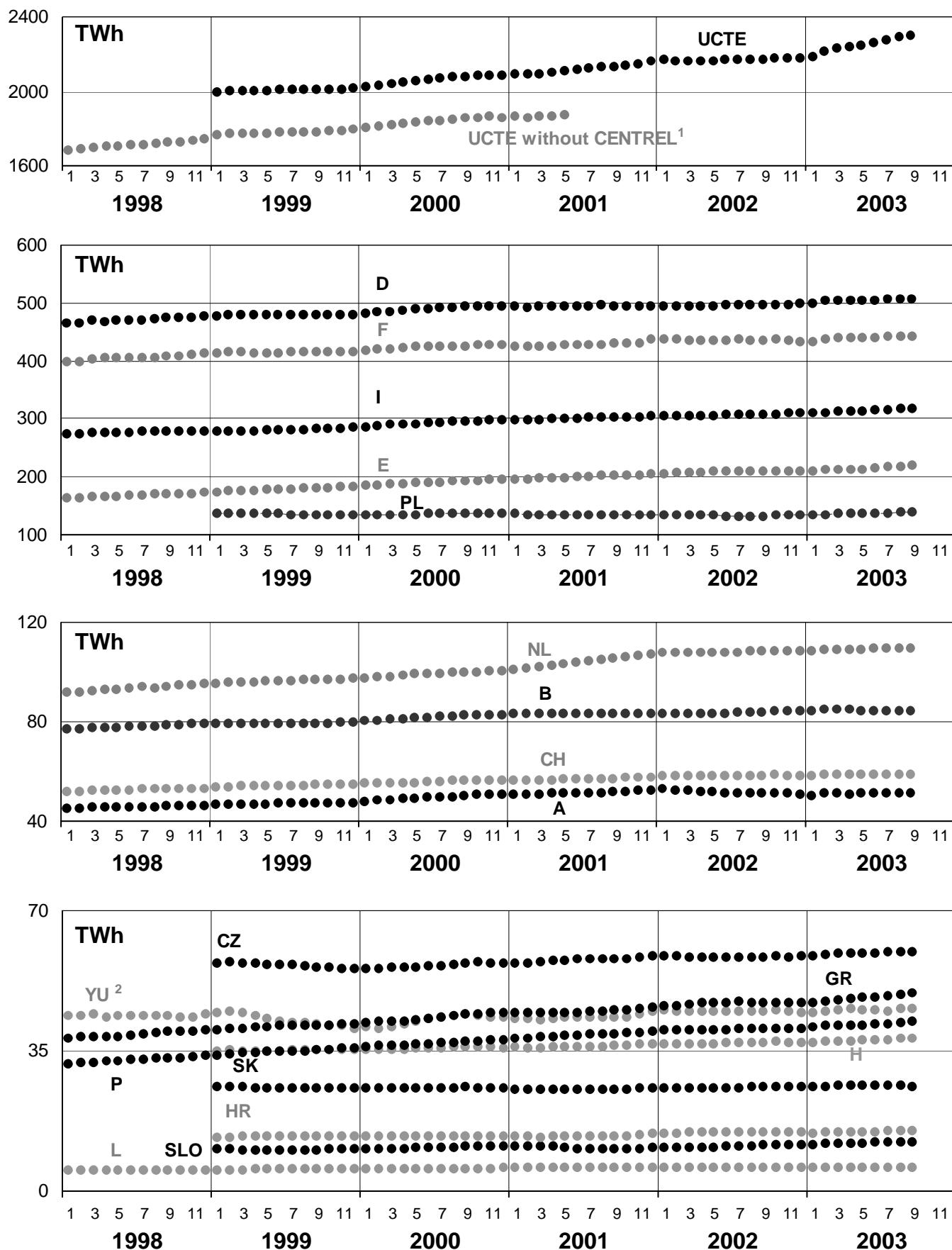
These physical energy flows were measured on the cross-frontier transmission lines (≥ 110 kV) listed in table 9 of the Statistical Yearbook. These values may differ from the official statistics and the exchange balances in chapter 1.



¹ YU = FRY + FYROM (Federal Republic of Yugoslavia and former Yugoslav Republic of Macedonia)

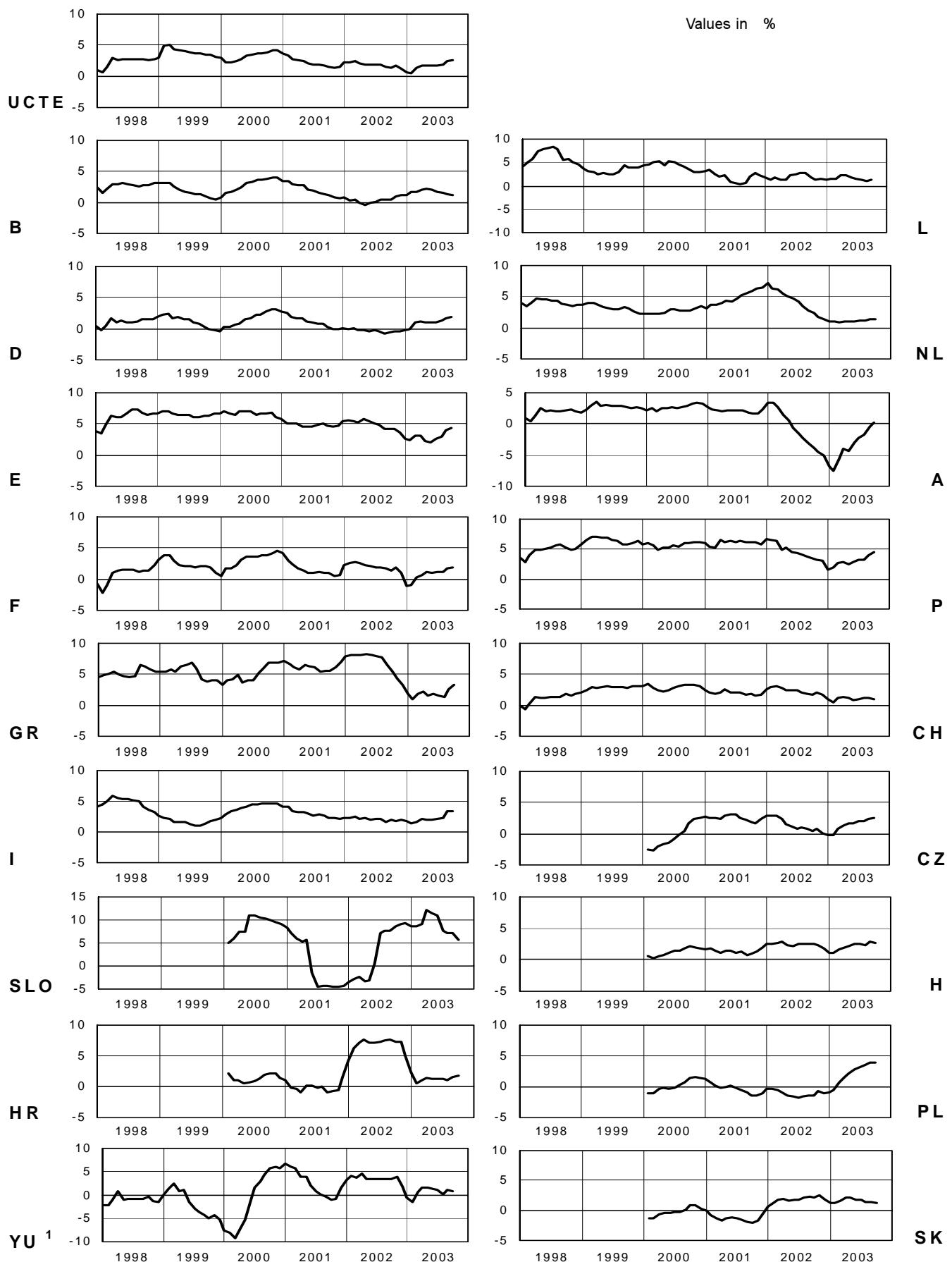


¹YU = FRY + FYROM (Federal Republic of Yugoslavia and former Yugoslav Republic of Macedonia)

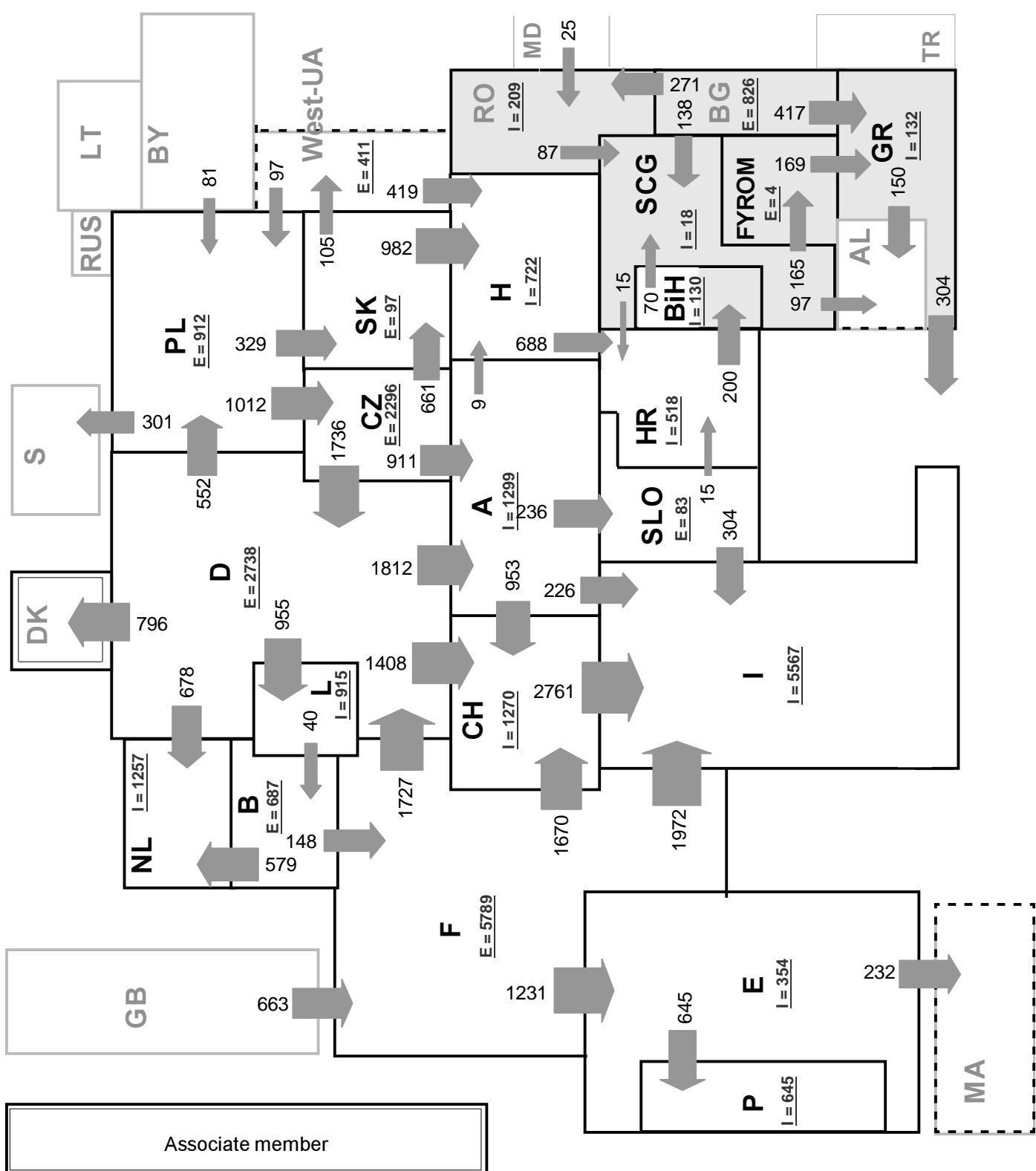


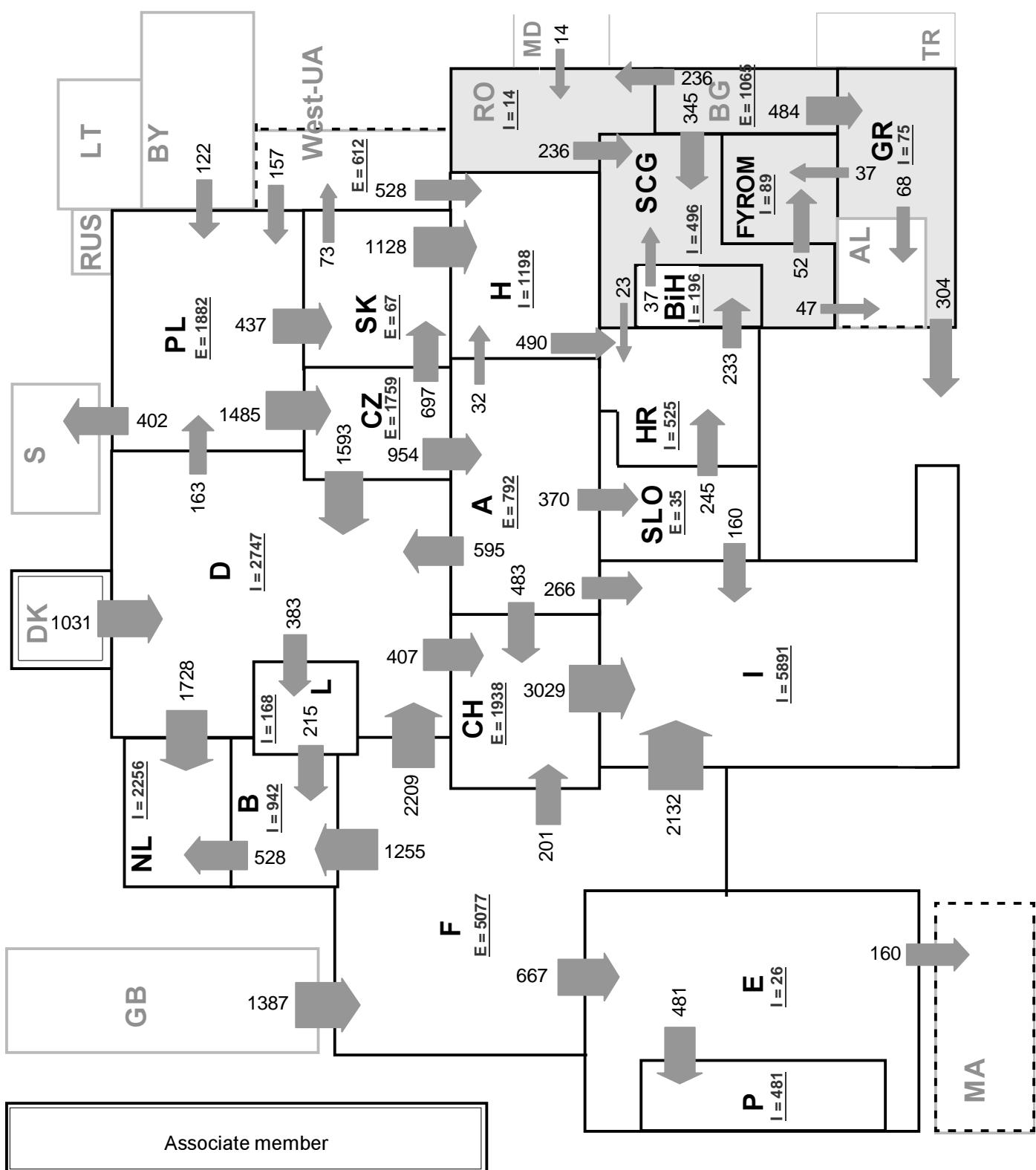
¹ CENTREL countries CZ, H, PL and SK member of UCTE from May 2001

² YU = FRY + FYROM (Federal Republic of Yugoslavia and former Yugoslav Republic of Macedonia)



¹ YU = FRY + FYROM (Federal Republic of Yugoslavia and former Yugoslav Republic of Macedonia)





Synchronous operation with 1st resp. 2nd UCTE region

2nd synchronous UCTE region

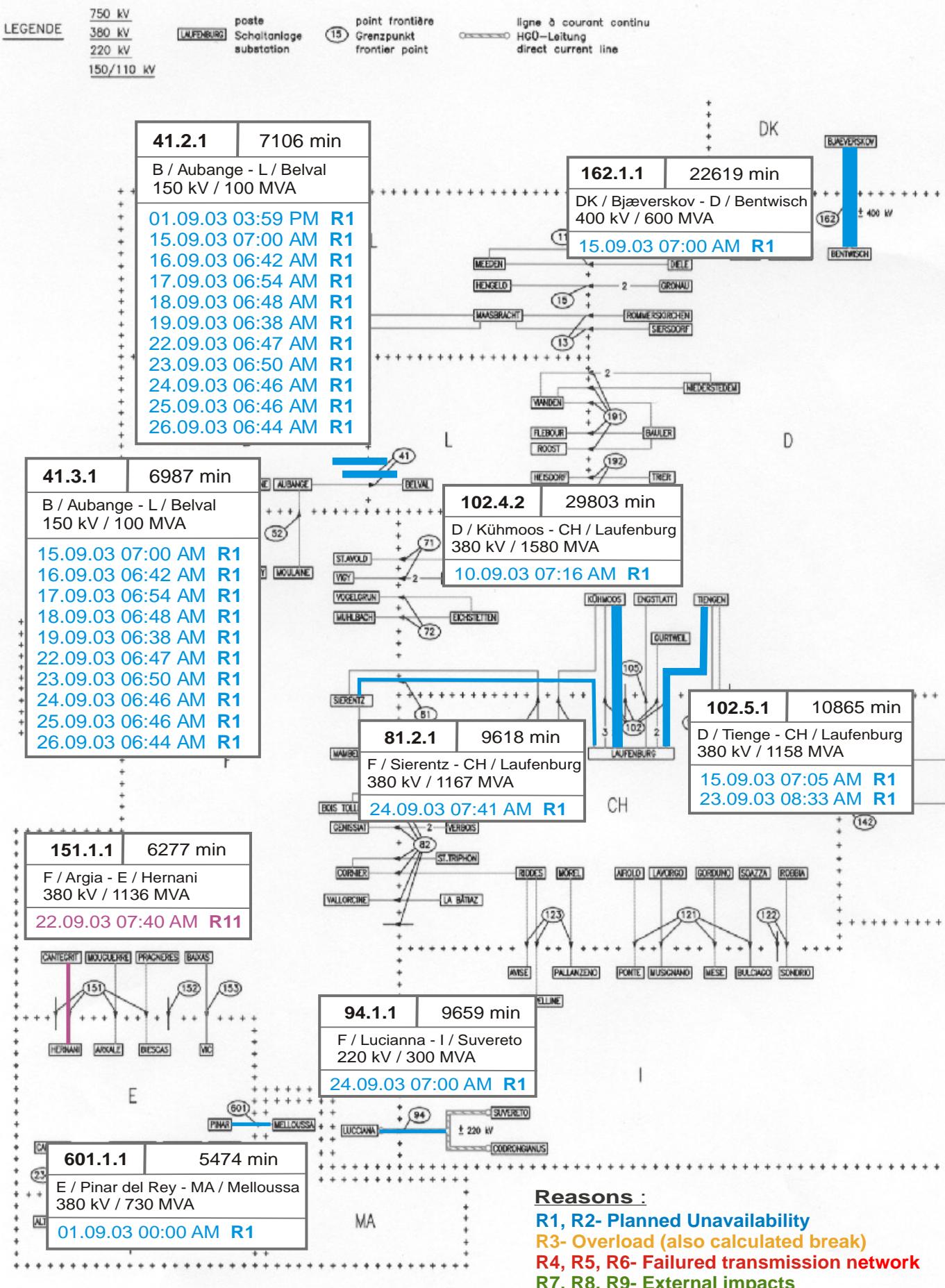
Sum of load flows in MW:

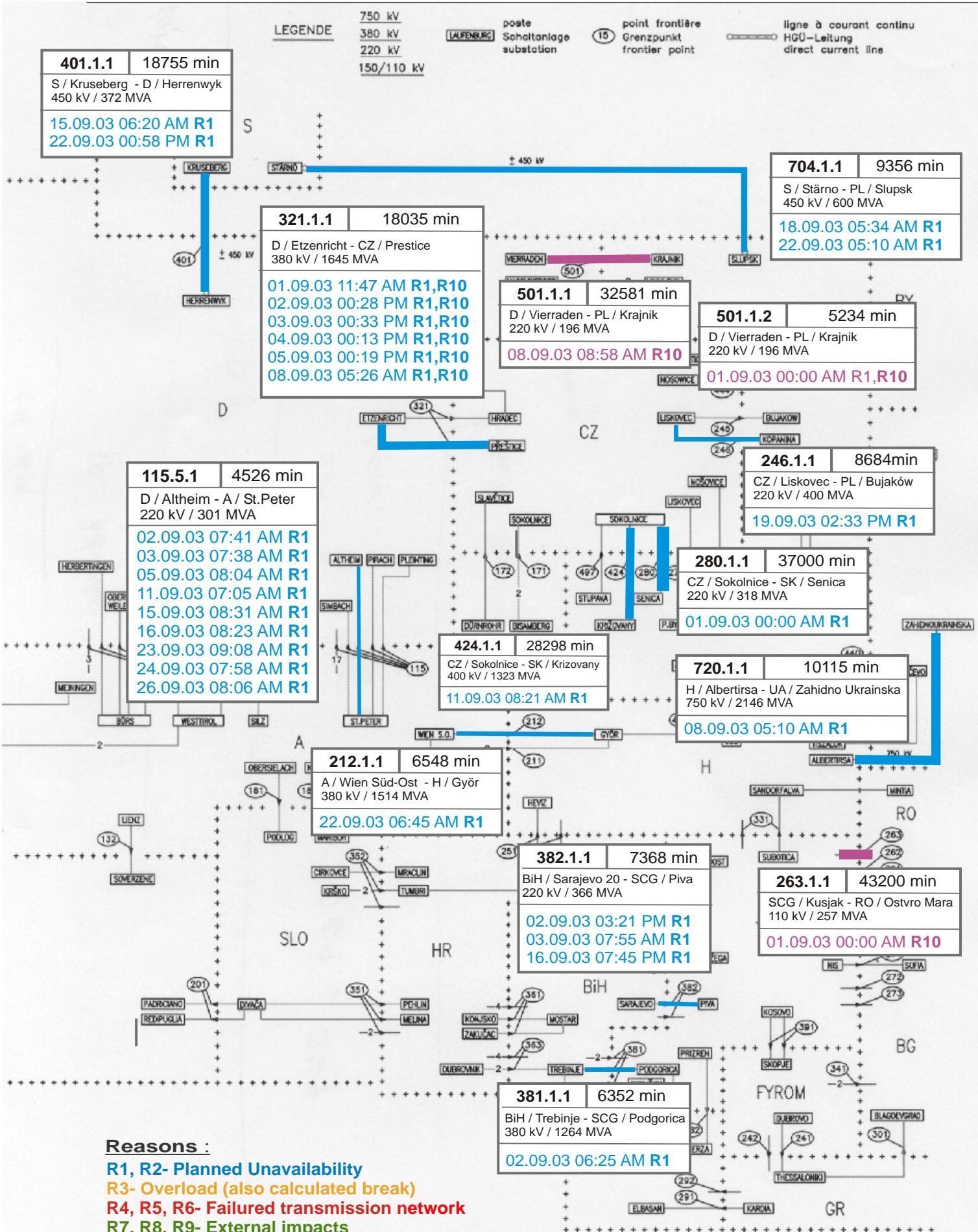
UCTE = 24320 Total = 28309

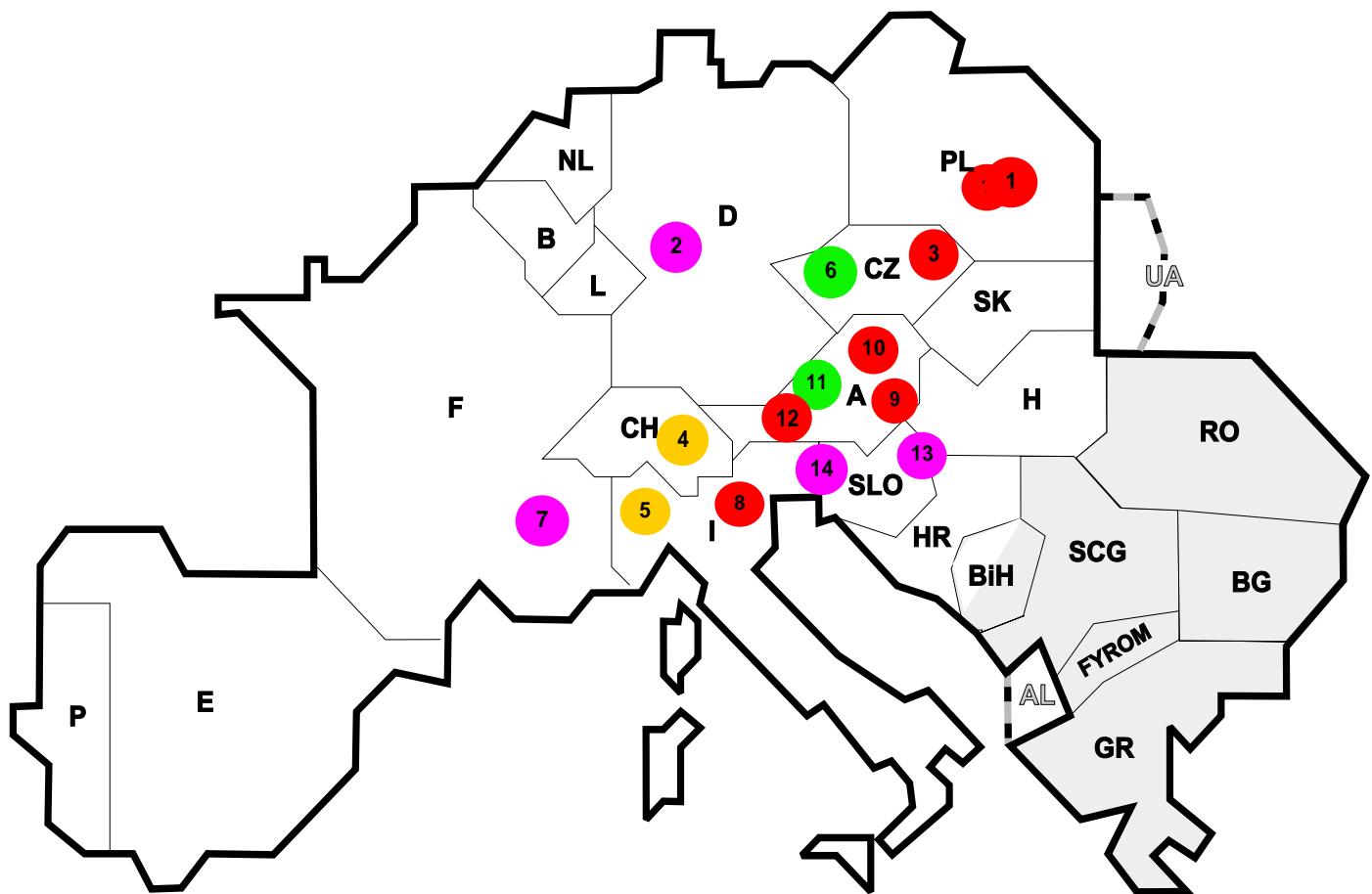
* Central European Time (CET)

I = Import balance

E = Export balance







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 ¹ |
|-----|---------|--------------|--------|---------------------------------|-------------------------------|--------------------------|---|
| 1 | PL | Rogowiec | R6 | 540 | 1750 | 764 | 6,65 |
| 2 | D | Brauweiler | R10 | 477 | 260 | 110 | 0,27 |
| 3 | CZ | Krasikov | R4 | 111 | 230 | 28 | 2,02 |
| 4 | CH | Mettlen | R3 | 70 | 0 | 20 | 0,00 |
| 5 | I | Montecorvino | R3 | 15 | 150 | 6 | 0,25 |
| 6 | CZ | Sokolnice | R7 | 14 | 20 | 37 | 0,18 |
| 7 | F | Pontarlier | R11 | 11 | 49 | 16 | 0,06 |
| 8 | I | Misterbianco | R5 | 3 | 40 | 5 | 0,07 |
| 9 | A | Ernstshofen | R5 | 0 | 0 | 16 | 0,00 |
| 10 | A | Hessenberg | R6 | 0 | 0 | 30 | 0,00 |
| 11 | A | Westtirol | R7 | 0 | 0 | 574 | 0,00 |
| 12 | A | Wien-Südost | R6 | 0 | 0 | 35 | 0,00 |
| 13 | SLO | Bericevo | R10 | 0 | 0 | 7 | 0,00 |
| 14 | SLO | Divaca | R10 | 0 | 0 | 63 | 0,00 |

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

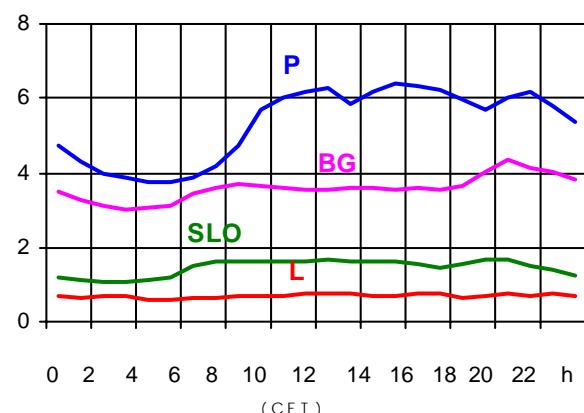
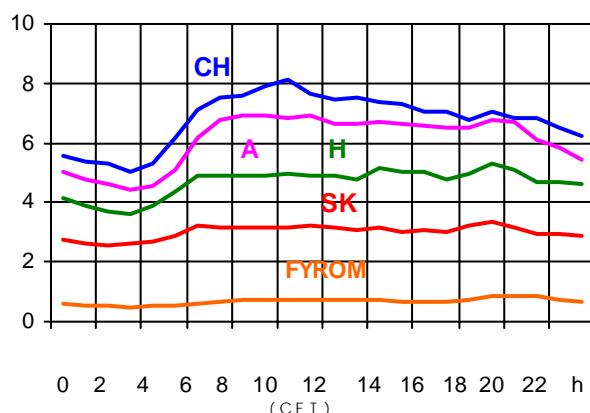
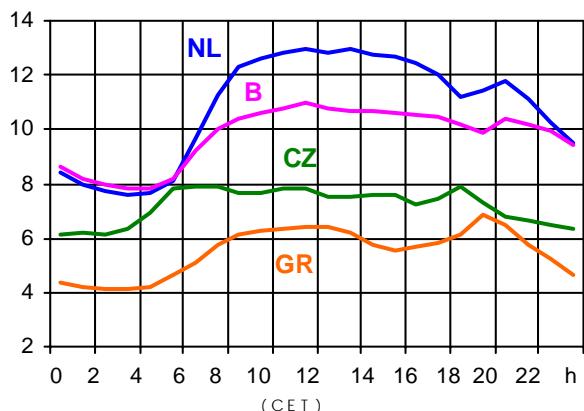
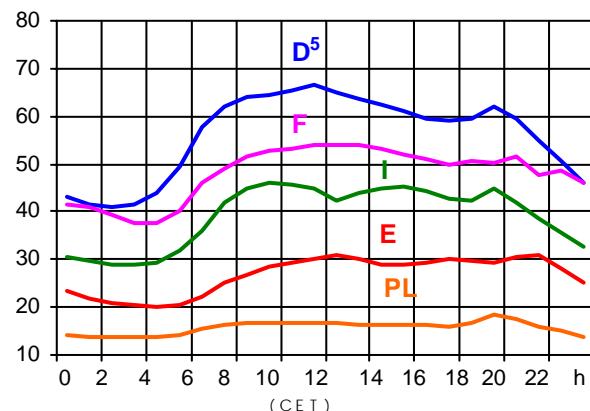
| Control area | Prog_exp | Prog_imp | Prog_exp3 | Prog_imp3 | Prog_exp11 | Prog_imp11 |
|--------------|----------|----------|-----------|-----------|------------|------------|
| B | 339165 | 580354 | 695 | 0 | 212 | 591 |
| D | 2977287 | 2515554 | 3669 | 3281 | 2880 | 4172 |
| E | 522955 | 684572 | 963 | 1200 | 810 | 824 |
| F | 6520482 | 2232489 | 8454 | 2555 | 9304 | 4272 |
| GR | 219928 | 333598 | 300 | 367 | 300 | 447 |
| I | 31507 | 4345391 | 0 | 5567 | 1 | 5892 |
| SLO | 316810 | 490598 | 405 | 648 | 498 | 762 |
| HR | 183611 | 571619 | 269 | 467 | 226 | 453 |
| BiH | 79 | 209 | 86 | 193 | 39 | 227 |
| FYROM | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| SCG | 256235 | 455033 | 264 | 490 | 229 | 670 |
| NL | 381442 | 1709026 | 531 | 1828 | 317 | 2588 |
| A | 1142649 | 286948 | 278 | 1433 | 396 | 1600 |
| P | 79820 | 428803 | 0 | 650 | 140 | 639 |
| CH | 2195104 | 1973316 | 2508 | 3755 | 3477 | 1530 |
| CZ | 1881070 | 366482 | 2577 | 238 | 2728 | 919 |
| H | 310388 | 1009094 | 521 | 1251 | 322 | 1520 |
| PL | 1009403 | 205320 | 1129 | 200 | 2085 | 165 |
| SK | 633012 | 573958 | 805 | 607 | 950 | 847 |
| RO | 420 | 1340 | 60 | 141 | 0 | 37 |
| BG | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| West-UA | 277487 | 0 | 322 | 0 | 450 | 0 |

- 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.

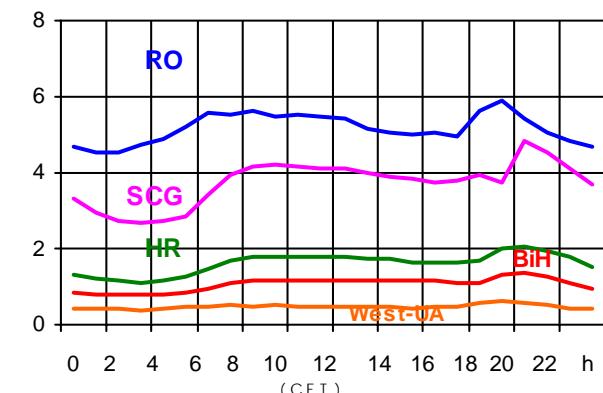
Consumption hourly load curves¹ on

17.09.03

Values in GW



| | Peak load MW | $\Delta\%$ ² | Cons_load_repr ¹ % | Parallel load ³ MW |
|-----------------|-----------------|-------------------------|----------------------------------|----------------------------------|
| B | 10965 | -1,0 | 100 | 9866 |
| D | 66400 | 1,1 | 91 | 70600 |
| E | 30866 | 6,2 | 94 | 29396 |
| F | 54126 | 0,6 | 97 | 60637 |
| GR ⁴ | 6828 | 3,3 | 93 | 6261 |
| I | 45876 | -0,6 | 100 | 39289 |
| SLO | 1663 | -1,2 | 95 | 1633 |
| HR | 2030 | 6,1 | 100 | 1507 |
| BIH | 1348 | n.a. | 100 | 969 |
| FYROM | 866 | n.a. | 100 | 668 |
| SCG | 4842 | n.a. | 96 | 3643 |
| L | 776 | -4,2 | 99 | 728 |
| NL | 12990 | 4,1 | 90 | 10555 |
| A | 6942 | -8,1 | 82 | 7402 |
| P | 6365 | 13,8 | 91 | 5233 |
| CH | 8116 | -2,1 | 100 | 9928 |
| CZ | 7908 | 8,0 | 100 | 9256 |
| H | 5283 | 0,7 | 100 | 3751 |
| PL | 18387 | 0,3 | 100 | 18670 |
| SK | 3380 | -0,9 | 100 | 3246 |
| UCTE | 298408 | 1,3 | | 303383 |
| DK ⁵ | | | | 2650 |
| RO | 5885 | n.a. | 100 | 5512 |
| BG | 4375 | n.a. | 100 | 4633 |
| West-UA | 642 | n.a. | 100 | 949 |

¹ Percentage as referred to total values in %² Variation as compared to corresponding month of the previous year³ Including autoproduction⁴ The representativity of data referring to the whole country, including the systems of the Greek islands, is 93%. The representativity of data to the interconnected system is 99%.⁵ Values estimated on the basis of former data from the German Federal Office for Statistics⁶ Denmark (Jutland)



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