

UCTE



December 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 March 2004

| Countries | Net production in GWh ¹ | | | | Exchange balance in GWh | Pump in GWh | Consumption in GWh ¹ | | | |
|-----------------|------------------------------------|--------------|---------------|---------------------------|----------------------------|----------------|---------------------------------|--------------------|-------------------|--------------------|
| | Hy | Tn | Tc | Total | | | monthly | Δ ³ [%] | last 12 months | Δ ³ [%] |
| B | 129 | 4280 | 2814 | 7223 ² | 589 | 138 | 7674 | -0,6 | 84340 | 0,6 |
| D | 1393 | 14008 | 31680 | 47081 ² | -1871 | 706 | 44504 | -0,9 | 506700 | 1,6 |
| E | 5196 | 5502 | 9646 | 20344 ² | -119 | 400 | 19825 | 7,7 | 224136 | 5,8 |
| F | 5032 | 41679 | 4534 | 51245 | -6370 | 708 | 44167 | 4,4 | 449692 | 3,9 |
| GR | 400 | 0 | 3920 | 4320 ² | 164 | 90 | 4394 | 0,9 | 49834 | 3,6 |
| I | 3387 | 0 | 19796 | 23183 | 4041 | 947 | 26277 | 0,8 | 319627 | 2,9 |
| SLO | 258 | 493 | 389 | 1140 | 7 | 0 | 1147 | 8,9 | 12394 | 5,5 |
| HR | 532 | 0 | 616 | 1148 ² | 367 | 3 | 1512 | 3,7 | 15437 | 4,6 |
| BiH | 458 | 0 | 748 | 1206 | 211 | 0 | 1417 | n.a. | n.a. | n.a. |
| FYROM | 109 | 0 | 499 | 608 ² | 11 | 0 | 619 | n.a. | n.a. | n.a. |
| SCG | 852 | 0 | 2830 | 3682 | 576 | 77 | 4181 | n.a. | n.a. | n.a. |
| L | 93 | 0 | 234 | 327 | 303 | 111 | 519 | 4,6 | 6305 | 1,8 |
| NL | 0 | 363 | 8343 | 8706 ² | 1693 | 0 | 10399 | 5,3 | 45458 | 1,5 |
| A | 1797 | 0 | 2115 | 3912 | 1157 | 247 | 4822 | 1,6 | 6126 | 1,3 |
| P | 2091 | 0 | 1742 | 3833 ² | 186 | 19 | 4000 | 7,1 | 110394 | 4,6 |
| CH | 2080 | 2390 | 248 | 4718 ² | 933 | 229 | 5422 | 0,3 | 51328 | 2,8 |
| CZ | 138 | 2588 | 4440 | 7166 ² | -1378 | 67 | 5721 | -1,9 | 43096 | 2,3 |
| H | 18 | 984 | 1775 | 2777 ² | 603 | 0 | 3380 | 0,7 | 60113 | 3,2 |
| PL ⁵ | 259 | 0 | 14015 | 14274 ² | -1031 | 215 | 13028 | -3,7 | 59893 | 3,2 |
| SK | 184 | 1645 | 906 | 2735 ² | -164 | 34 | 2537 | -1,4 | 38418 | 0,9 |
| UCTE | 25569 | 76595 | 117101 | 219265² | -1008 | 4034 | 214223 | 1,8 | 2241680 | 3,0 |
| RO | 912 | 790 | 3307 | 5009 ² | -248 | 0 | 4761 | n.a. | n.a. | n.a. |
| BG | 251 | 1873 | 2504 | 4628 ² | -668 | 43 | 3917 | n.a. | n.a. | n.a. |
| West-UA | 5 | 0 | 701 | 706 ² | -271 | 0 | 435 | n.a. | n.a. | n.a. |

¹ Percentage as referred to total values in %

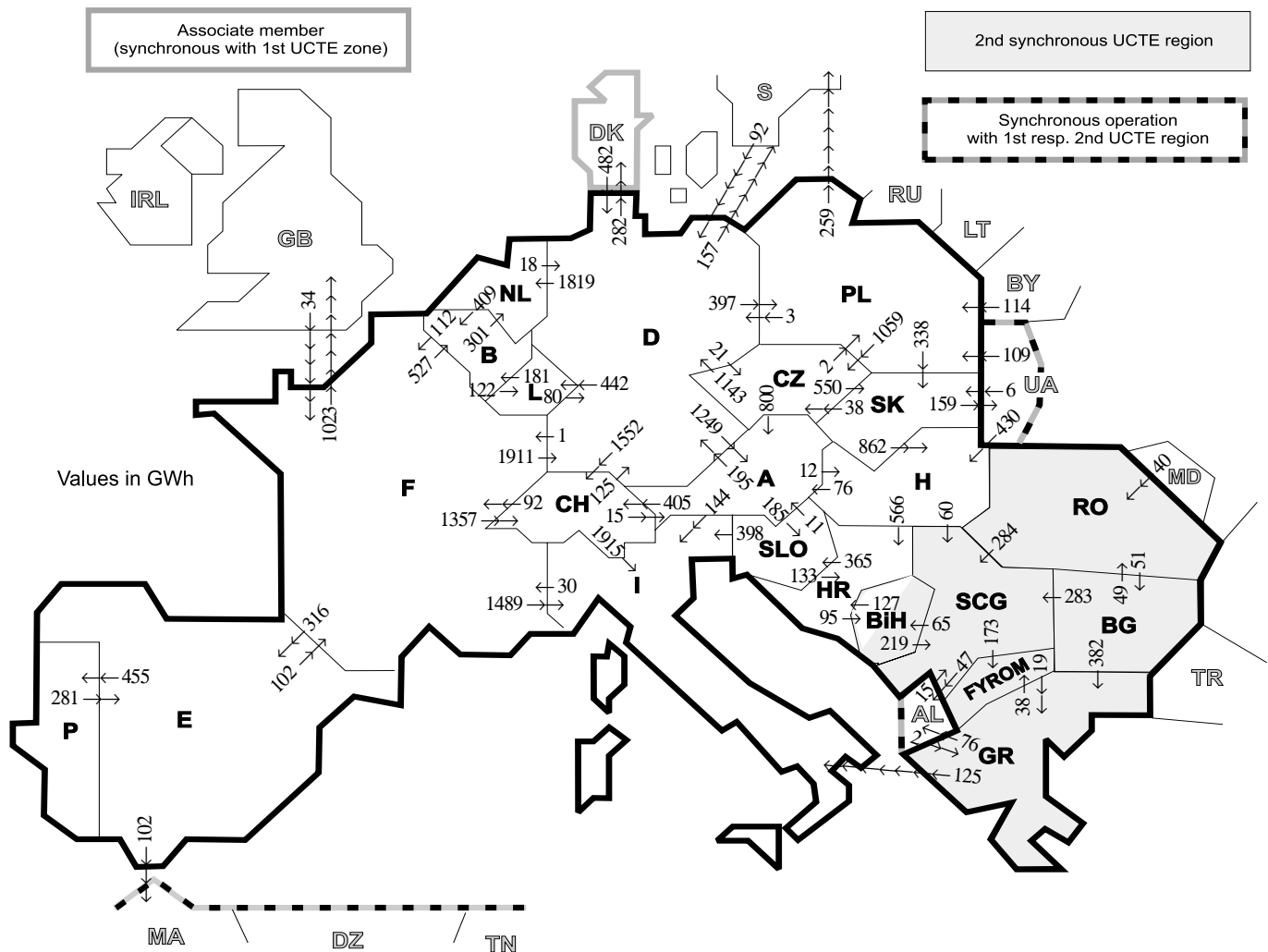
| Countries | B | D | E | F | GR ⁴ | I | SLO | HR | BiH | FY- ROM | SCG | L | NL | A | P | CH | CZ | H | PL | SK | RO | BG | West- UA |
|-------------|----|----|----|----|-----------------|-----|-----|-----|-----|------------|-----|----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-------------|
| Production | 99 | 94 | 94 | 97 | 93 | 100 | 95 | 100 | 99 | 100 | 96 | 98 | 100 | 84 | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Consumption | 99 | 94 | 94 | 97 | 93 | 100 | 95 | 100 | 99 | 100 | 96 | 99 | 100 | 90 | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

² Including deliveries from industry

³ 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 | - | - | - | 112 | - | - | - | - | - | - | - | 122 | 301 | - | - | - | - | - | - | - | - | - | - | - | - | - | 535 |
| D | - | - | - | 1 | - | - | - | - | - | - | - | 442 | 1819 | 1249 | - | - | - | - | 397 | - | - | - | - | - | 282 | 439 | 5920 |
| E | - | - | - | 102 | - | - | - | - | - | - | - | - | - | - | 455 | - | - | - | - | - | - | - | - | - | - | 102 | 659 |
| F | 527 | 1911 | 316 | - | - | 1489 | - | - | - | - | - | - | - | - | - | 1357 | - | - | - | - | - | - | - | - | - | 1023 | 6623 |
| GR | - | - | - | - | 125 | - | - | - | - | 38 | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | - | 76 | 239 |
| I | - | - | - | 30 | 0 | - | 0 | - | - | - | - | - | - | 0 | - | 0 | - | - | - | - | - | - | - | - | - | - | 30 |
| SLO | - | - | - | - | - | 398 | - | 133 | - | - | - | - | - | 11 | - | - | - | - | - | - | - | - | - | - | - | - | 542 |
| HR | - | - | - | - | - | - | 365 | - | 95 | - | 0 | - | - | - | - | - | - | 0 | - | - | - | - | - | - | - | - | 460 |
| BiH | - | - | - | - | - | - | - | 127 | - | - | 219 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 346 |
| FYROM | - | - | - | - | 19 | - | - | - | - | - | 0 | - | - | - | - | - | - | - | - | - | - | 0 | - | - | - | - | 19 |
| SCG | - | - | - | - | - | - | - | 0 | 65 | 173 | - | - | - | - | - | - | - | - | 0 | - | 0 | 0 | - | - | - | 47 | 285 |
| L | 181 | 80 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 261 |
| NL | 409 | 18 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 427 |
| A | - | 195 | - | - | - | 144 | 185 | - | - | - | - | - | - | - | - | 405 | 0 | 12 | - | - | - | - | - | - | - | - | 941 |
| P | - | - | 281 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 281 |
| CH | - | 125 | - | 92 | - | 1915 | - | - | - | - | - | - | - | 15 | - | - | - | - | - | - | - | - | - | - | - | - | 2147 |
| CZ | - | 1143 | - | - | - | - | - | - | - | - | - | - | - | 800 | - | - | - | - | 2 | 550 | - | - | - | - | - | - | 2495 |
| H | - | - | - | - | - | - | 566 | - | - | - | 60 | - | - | 76 | - | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 702 |
| PL | - | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1059 | - | - | 338 | - | - | 0 | - | - | 0 | 1659 |
| SK | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 38 | 862 | 0 | - | - | - | 159 | 159 | 1059 | |
| RO | - | - | - | - | - | - | - | - | - | - | 284 | - | - | - | - | - | - | - | 0 | - | - | 51 | - | - | - | 0 | 335 |
| BG | - | - | - | - | 382 | - | - | - | - | 0 | 283 | - | - | - | - | - | - | - | - | - | - | 49 | - | - | - | 0 | 714 |
| West-UA | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 430 | 109 | 6 | 0 | - | - | - | - | 545 |
| DK ² | - | 482 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 482 |
| III ¹ | - | 574 | 0 | 34 | 2 | - | - | - | - | - | 15 | - | - | - | - | - | - | - | 430 | 223 | 6 | 40 | 0 | - | - | - | 1324 |
| Σ Import | 1117 | 4049 | 597 | 371 | 403 | 4071 | 550 | 826 | 160 | 211 | 861 | 564 | 2120 | 2151 | 455 | 3314 | 1118 | 1304 | 622 | 894 | 89 | 51 | 159 | 282 | 2105 | 28003 | |

Sum of physical energy flows between UCTE countries = 24574 GWh

Total physical energy flows = 28003 GWh

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

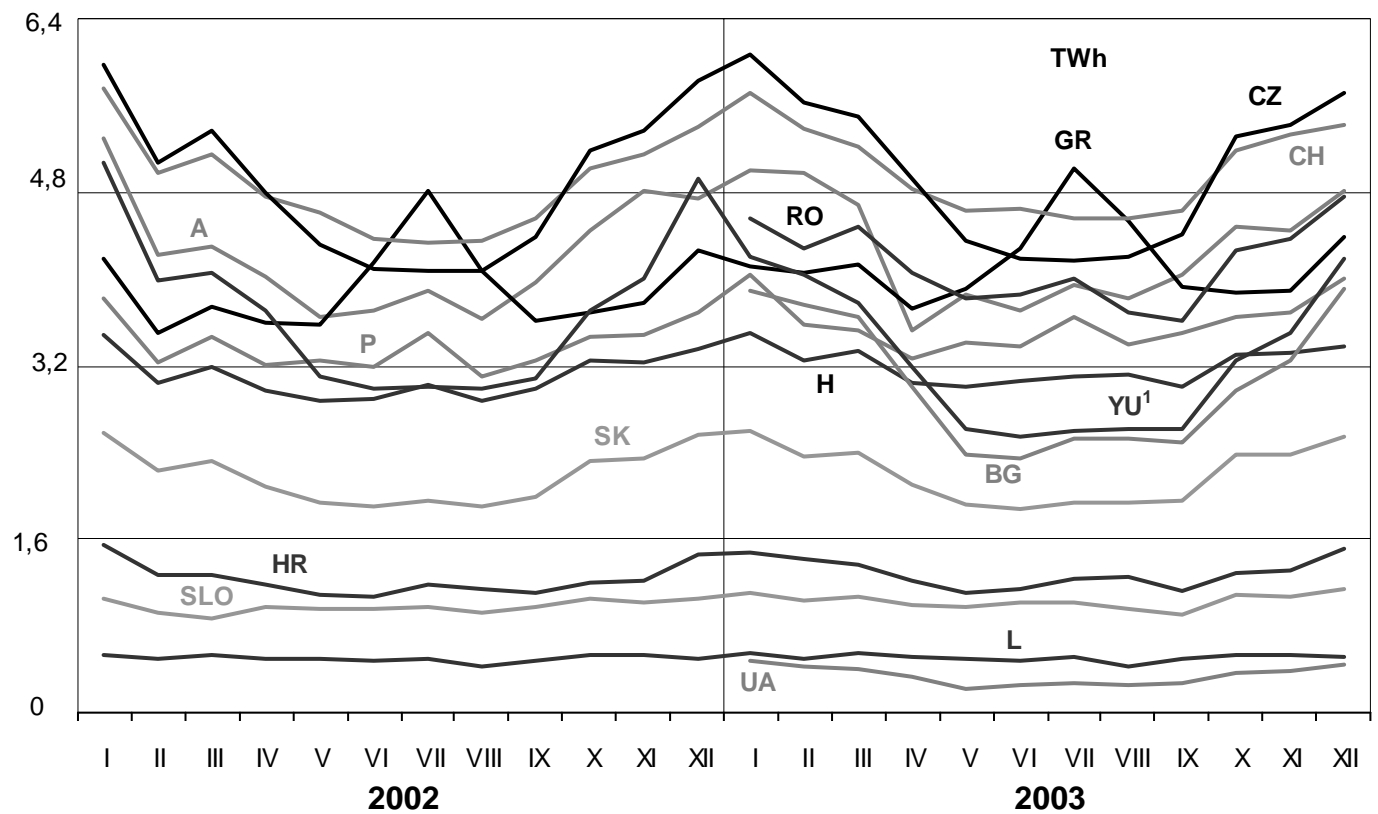
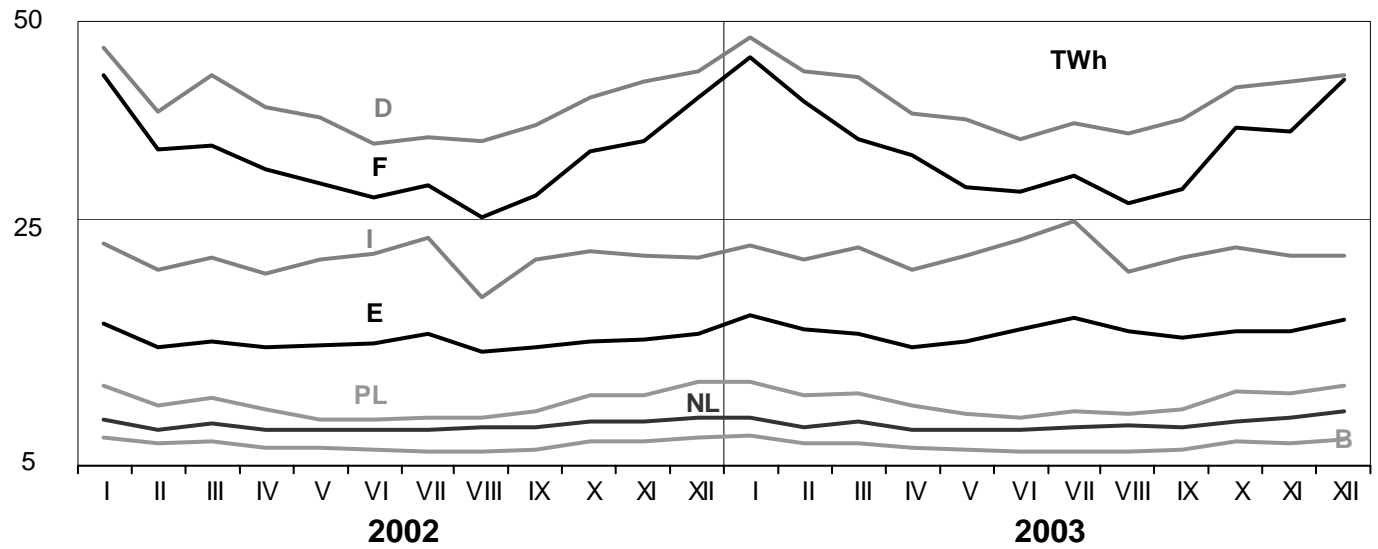
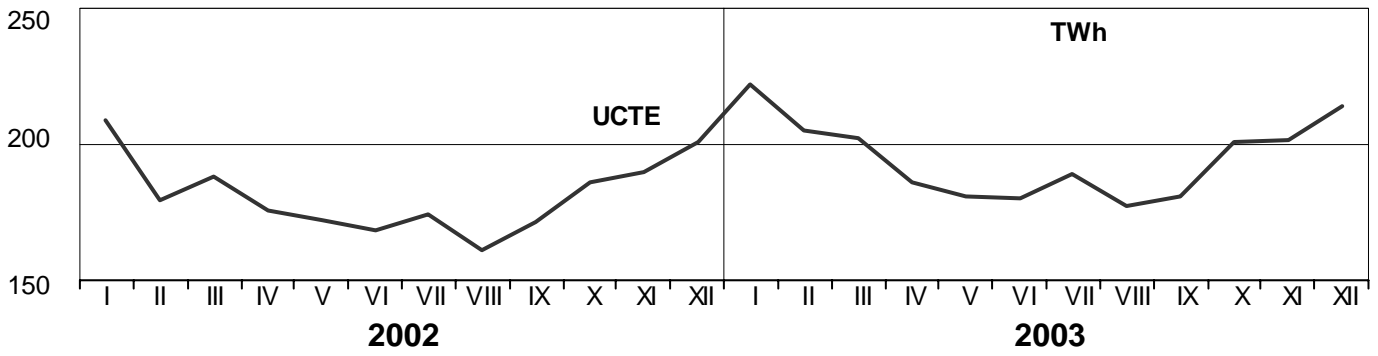
² Denmark (Jutland)

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.

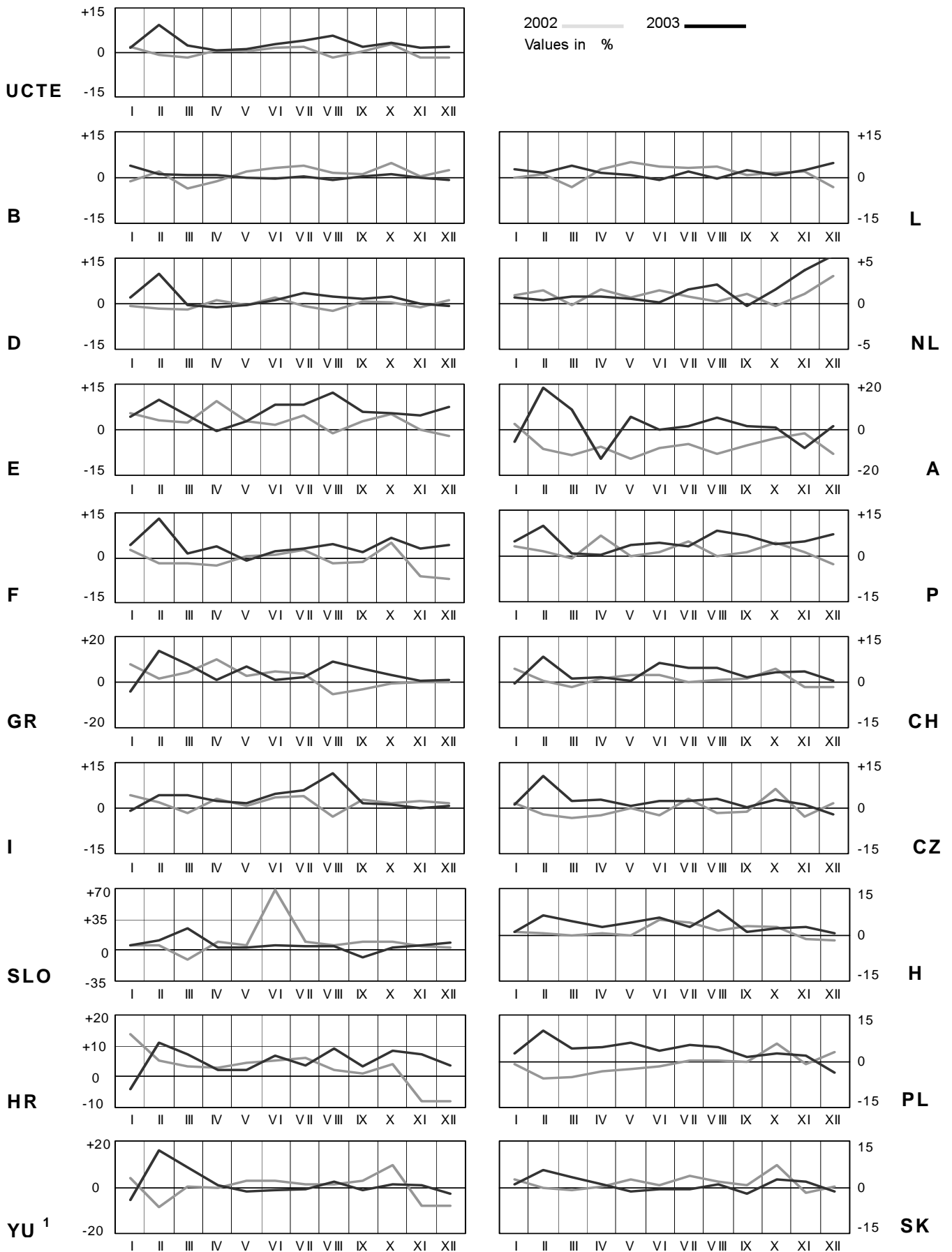
3

Monthly consumption

December 2003



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

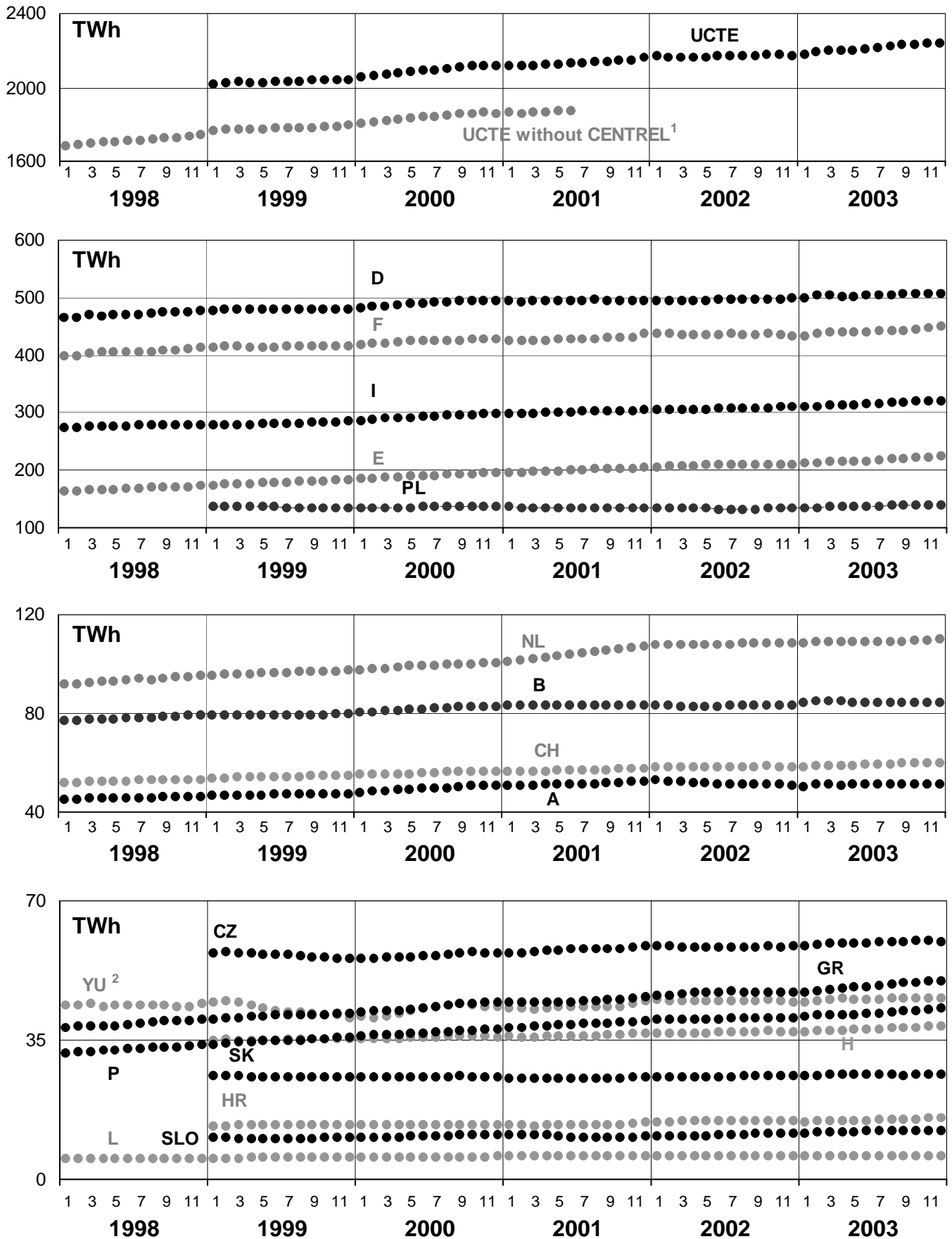


¹YU = FRY + FYROM (Federal Republic of Yugoslavia and former Yugoslav Republic of Macedonia)

5

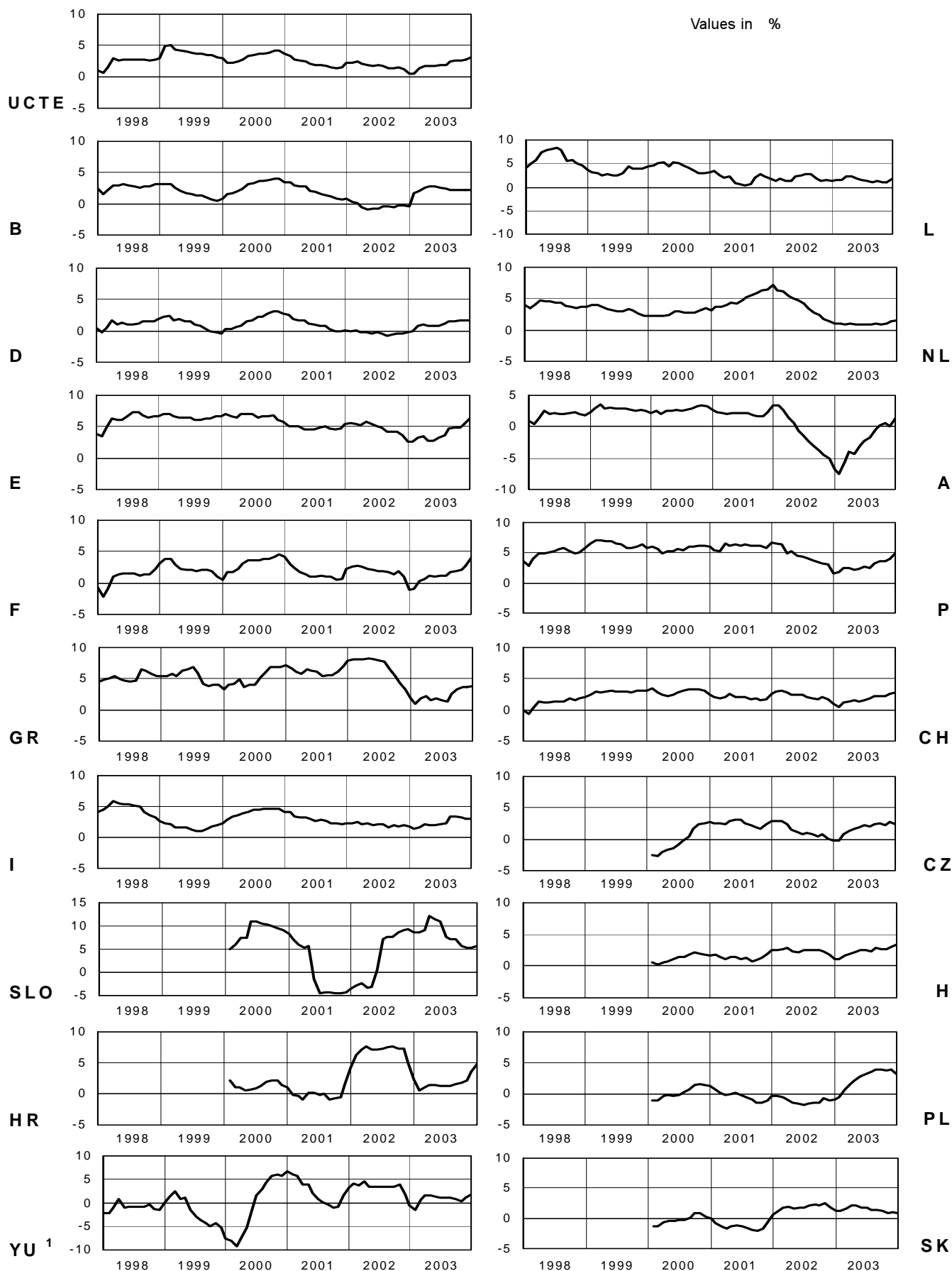
Consumption of last 12 months

December 2003

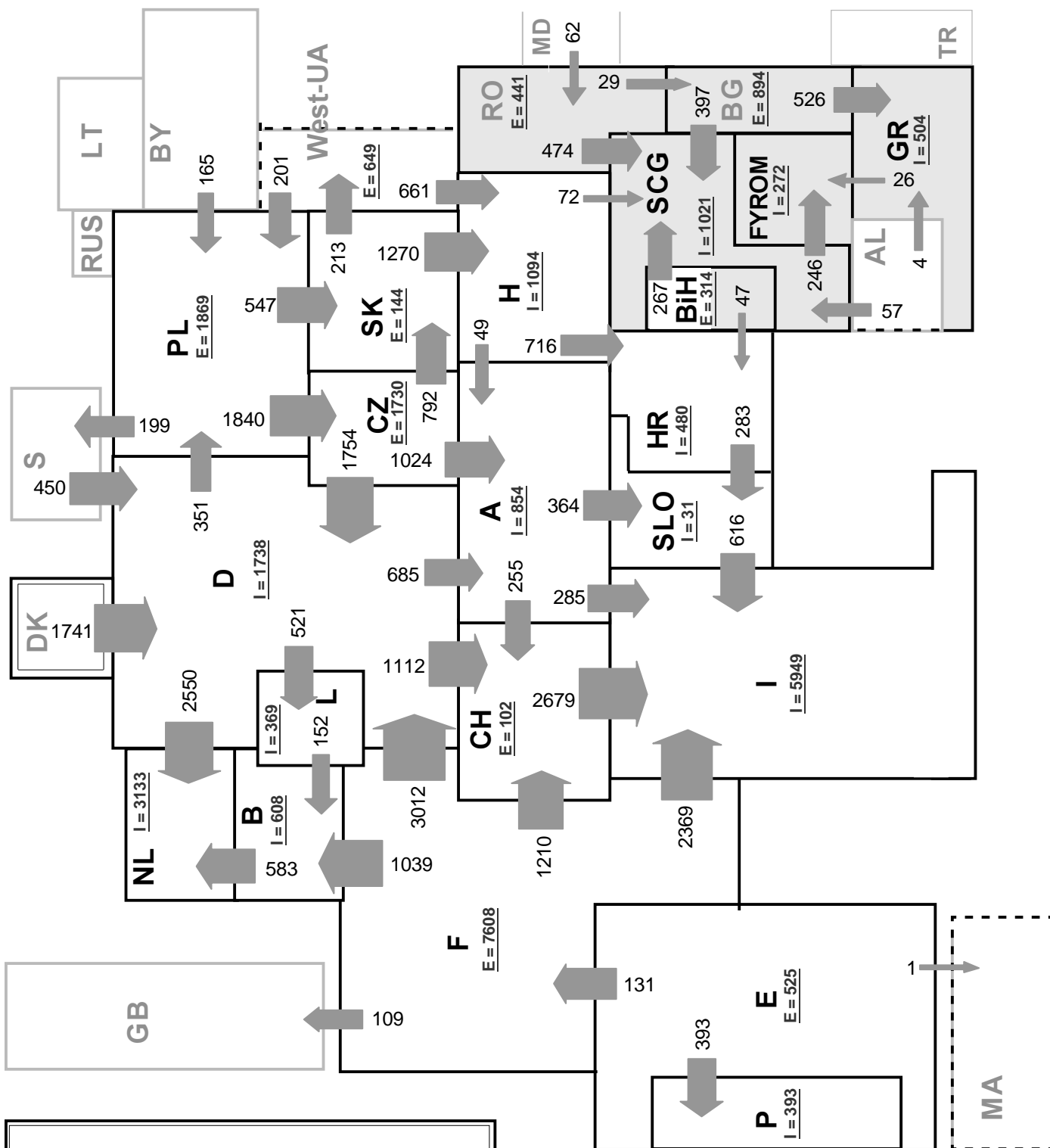


¹ CENTREL countries CZ, H, PL and SK member of UCTE from May 2001

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)



Associate member

Synchronous operation with 1st resp. 2nd UCTE region

2nd synchronous UCTE region

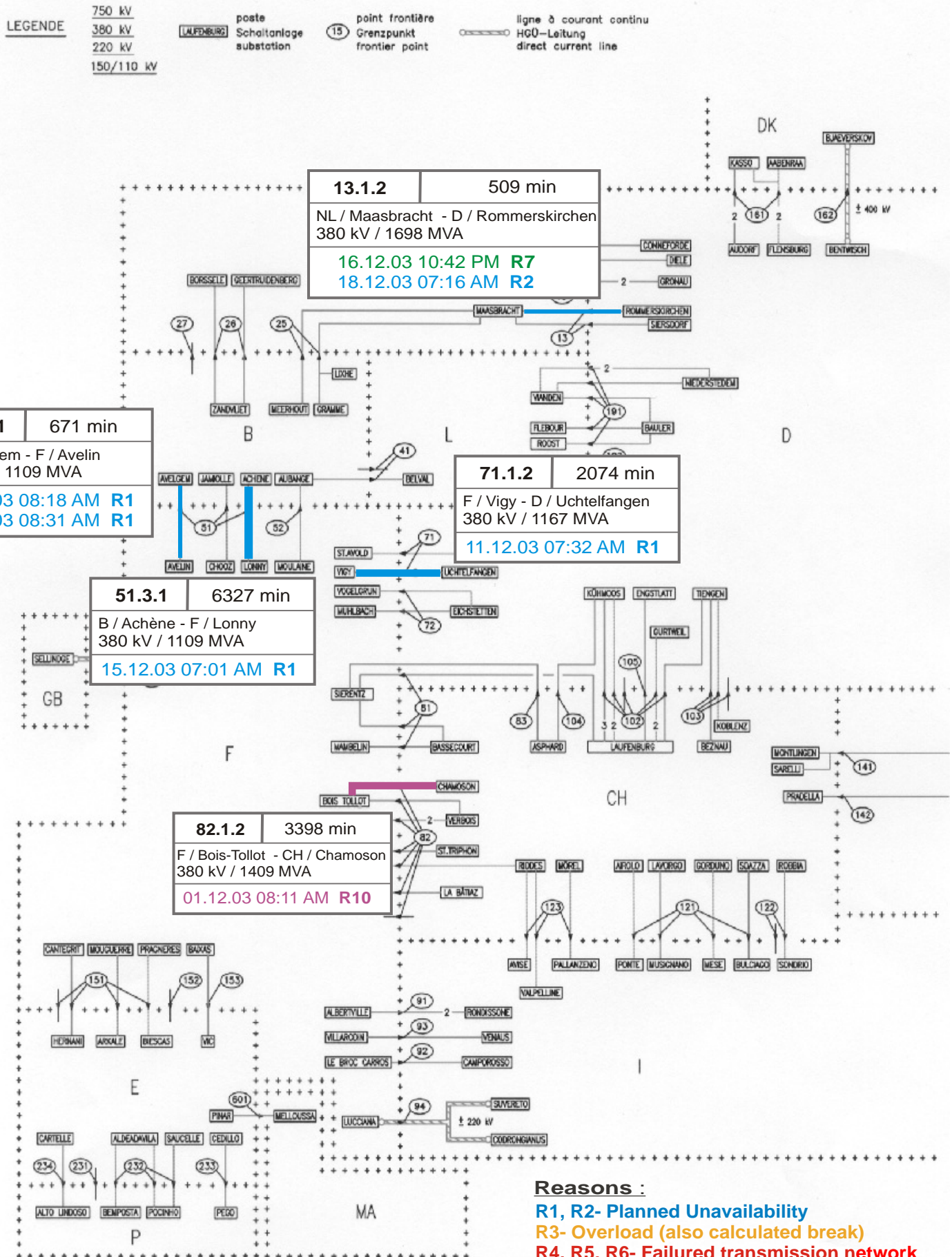
Sum of load flows in MW:

UCTE = 28666 Total = 32529

* Central European Time (CET)

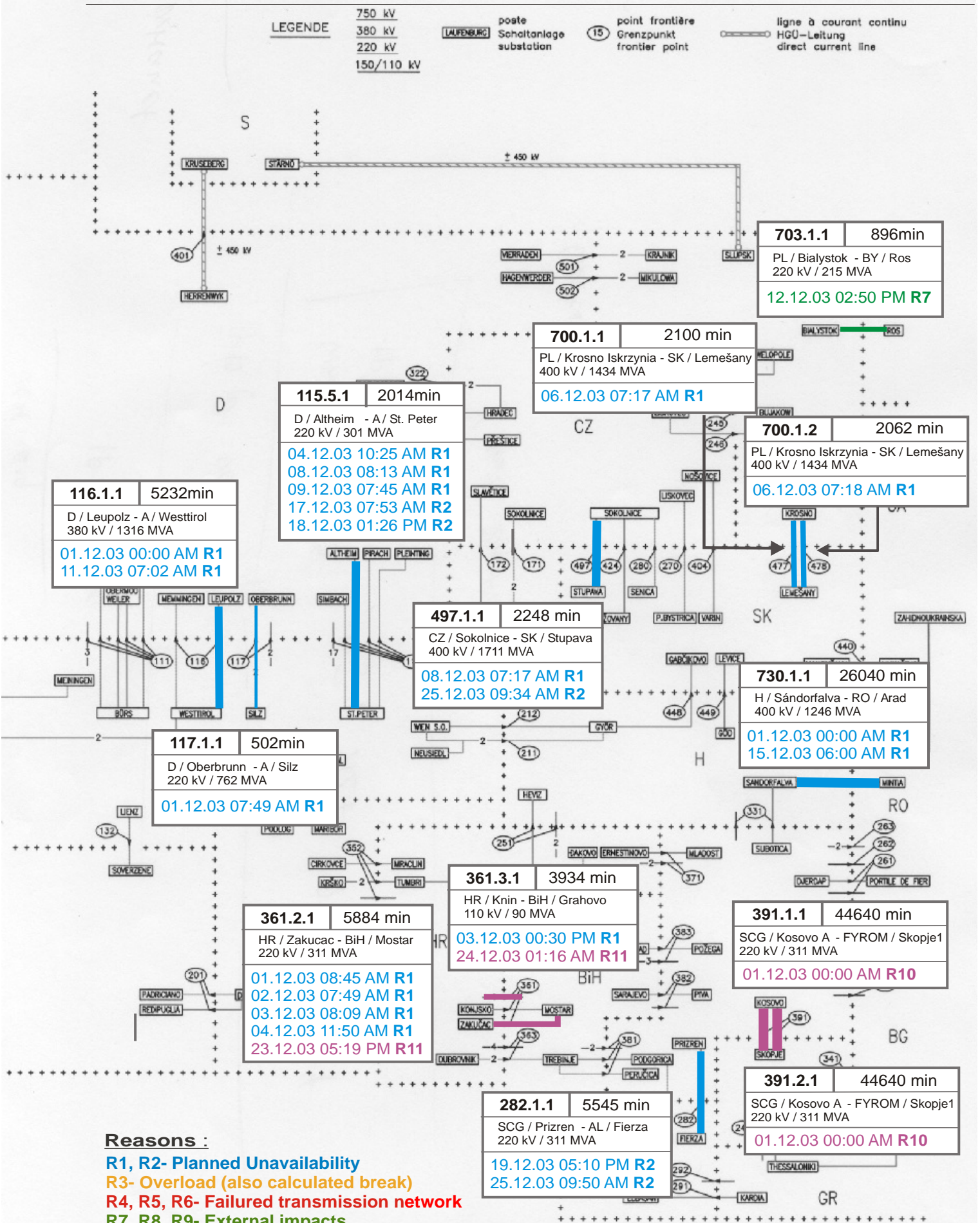
I = Import balance

E = Export balance



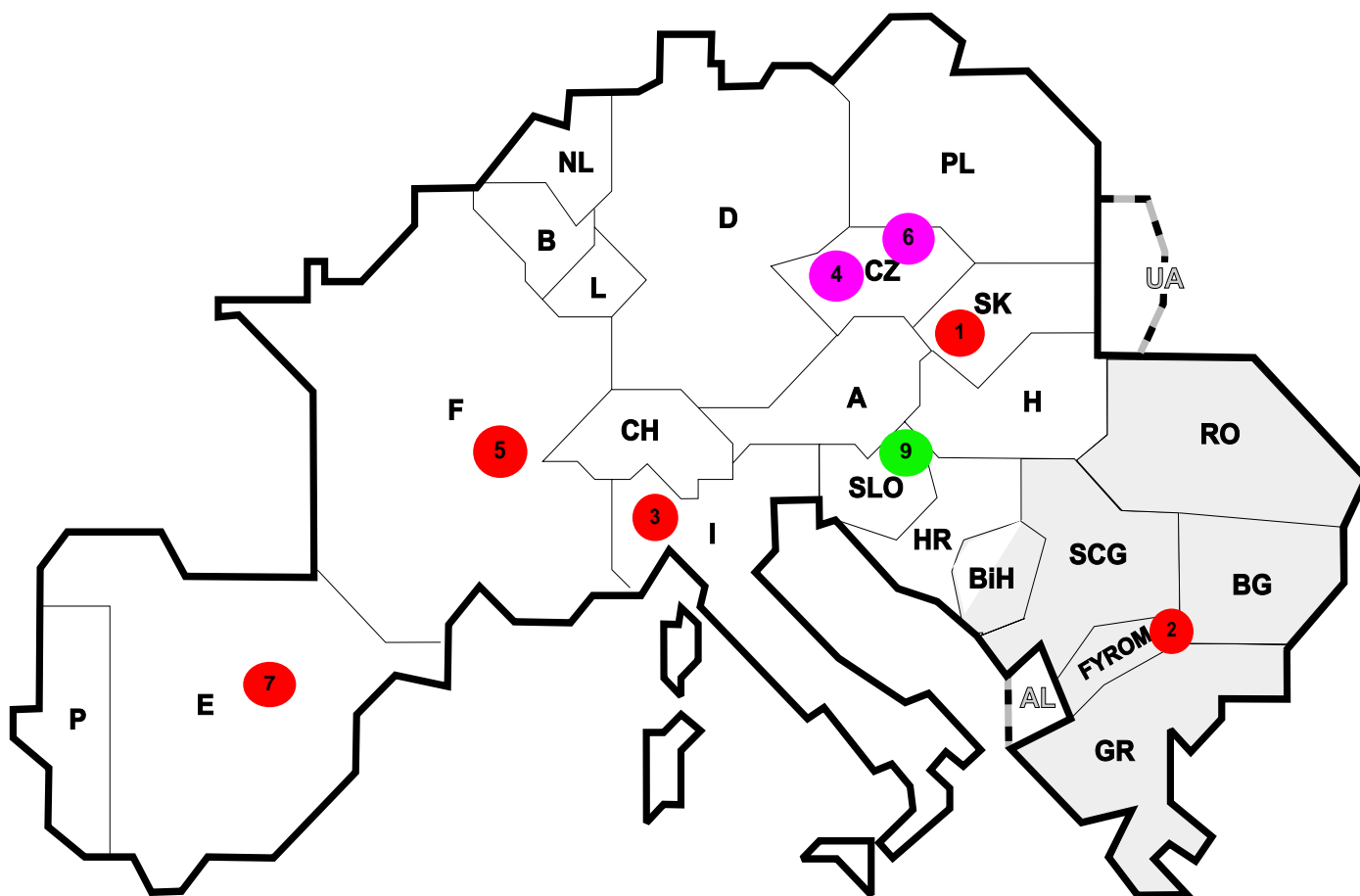
Reasons :

- 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 :

- 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 ¹ |
|-----|---------|------------|--------|------------------------------|----------------------------|--------------------------|--|
| 1 | SK | EMO | R6 | 13377 | 440 | 1998 | 8,66 |
| 2 | FYROM | SK5 | R5 | 200 | 170 | 87 | 14,17 |
| 3 | I | Brugherio | R6 | 55 | 46 | 1 | 0,08 |
| 4 | CZ | Liskovec | R10 | 52 | 140 | 12 | 1,23 |
| 5 | F | Bayet | R6 | 10 | 26 | 25 | 0,03 |
| 6 | CZ | Prestice | R10 | 6 | 0 | 3 | 0,00 |
| 7 | E | Loeches | R6 | 6 | 0 | 10 | 0,00 |
| 8 | E | Sabiñanigo | R11 | 1 | 0 | 16 | 0,00 |
| 9 | SLO | Bericevo | R7 | 0 | 0 | 163 | 0,00 |

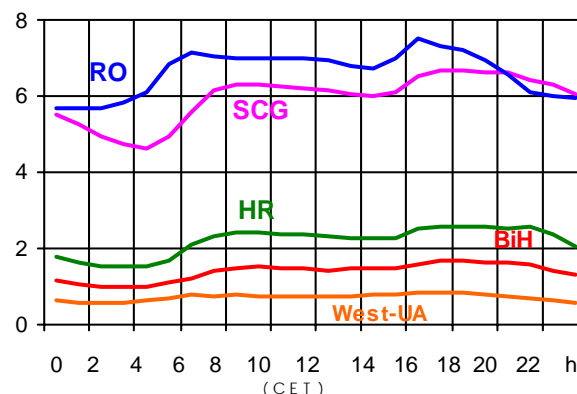
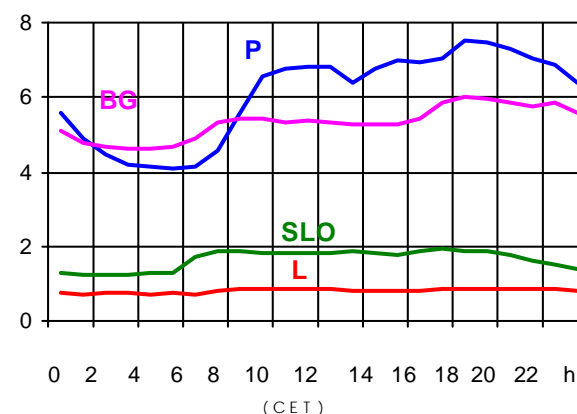
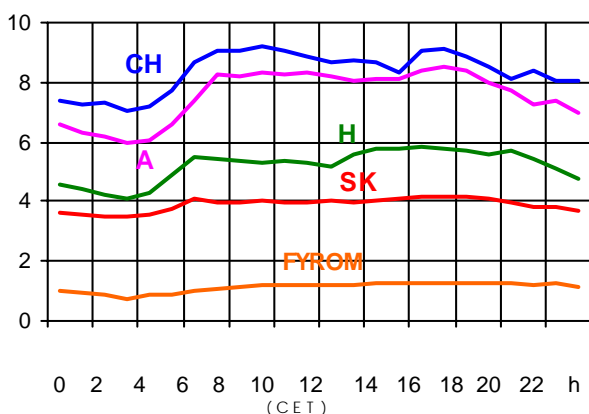
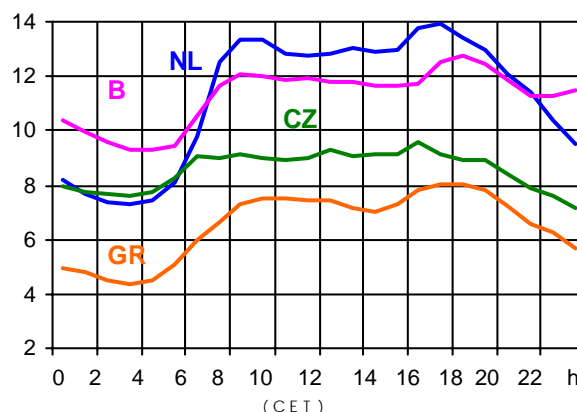
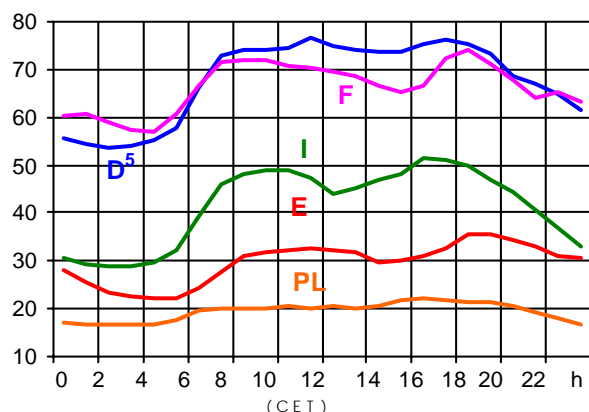
¹ (year [in min] * power loss) / consumption last 12 months

| Control area | Prog_exp | Prog_imp | Prog_exp3 | Prog_imp3 | Prog_exp11 | Prog_imp11 |
|--------------|----------|----------|-----------|-----------|------------|------------|
| B | 607480 | 1154190 | 545 | 1238 | 774 | 1391 |
| D | 3529072 | 2200462 | 3539 | 2939 | 3270 | 3738 |
| E | 718203 | 581244 | 909 | 533 | 2044 | 1048 |
| F | 8247497 | 1991075 | 10226 | 1860 | 10181 | 2870 |
| GR | 161251 | 332695 | 0 | 326 | 0 | 480 |
| I | 30475 | 4071431 | 0 | 5254 | 0 | 5949 |
| SLO | 579737 | 581683 | 747 | 751 | 742 | 746 |
| HR | 104947 | 474439 | 414 | 546 | 294 | 441 |
| BiH | 82 | 164 | 321 | 135 | 341 | 105 |
| FYROM | 26500 | 220200 | 110 | 220 | 30 | 300 |
| SCG | 435010 | 1018039 | 578 | 1153 | 530 | 1388 |
| NL | 363667 | 2053154 | 1084 | 2022 | 153 | 3298 |
| A | 773930 | 489720 | 500 | 895 | 774 | 826 |
| P | 118777 | 306426 | 0 | 237 | 499 | 923 |
| CH | 1681553 | 2851438 | 1803 | 4923 | 2753 | 2641 |
| CZ | 2127740 | 711192 | 2982 | 835 | 3141 | 1337 |
| H | 387404 | 988524 | 597 | 1178 | 417 | 1513 |
| PL | 1285626 | 136095 | 1178 | 320 | 2200 | 305 |
| SK | 650464 | 429184 | 740 | 456 | 988 | 769 |
| RO | 210818 | 147368 | 214 | 60 | 530 | 96 |
| BG | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| West-UA | 271495 | 0 | 323 | 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 17.12.03

Values in GW



| | Peak load MW | Δ % ² | Cons_load_repr ¹ % | Parallel load ³ MW |
|-----------------|-----------------|-------------------------|----------------------------------|----------------------------------|
| B | 12780 | -2,7 | 100 | 11195 |
| D | 76600 | 1,1 | 91 | 81800 |
| E | 35648 | 7,4 | 94 | 33378 |
| F | 74070 | 1,6 | 97 | 79264 |
| GR ⁴ | 8063 | 7,8 | 93 | 7038 |
| I | 51371 | 1,1 | 100 | 44422 |
| SLO | 1920 | 4,0 | 95 | 1800 |
| HR | 2602 | 5,6 | 100 | 2450 |
| BiH | 1681 | n.a. | 99 | 1801 |
| FYROM | 1284 | n.a. | 100 | 909 |
| SCG | 6699 | n.a. | 96 | 5232 |
| L | 880 | 15,8 | 99 | 855 |
| NL | 13941 | -6,6 | 90 | 9709 |
| A | 8546 | -0,5 | 82 | 8503 |
| P | 7532 | 21,6 | 92 | 6157 |
| CH | 9181 | 0,1 | 100 | 9089 |
| CZ | 9584 | -1,8 | 100 | 11444 |
| H | 5862 | 0,6 | 100 | 4285 |
| PL | 22139 | -2,2 | 100 | 22116 |
| SK | 4194 | 0,5 | 100 | 4066 |
| UCTE | 362313 | 4,2 | | 358781 |
| DK ⁶ | | | | 2805 |
| RO | 7542 | n.a. | 100 | 7000 |
| BG | 5999 | n.a. | 100 | 6268 |
| West-UA | 851 | n.a. | 100 | 1182 |

¹ Percentage as referred to total values in %

² Variation as compared to corresponding month of the previous year

³ Including autoproduction

⁴ 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 Statistics

⁶ Denmark (Jutland)



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