

# Monthly statistics



September 2015

European Network of  
Transmission System Operators  
for Electricity



Monthly provisional values as of 6 January 2016

Data Expert Group

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# Monthly statistics - September 2015

## Data Expert Group

Monthly provisional values from the ENTSO-E statistical database as of 6 January 2016.

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### General remarks and abbreviations used in the tables

- Definitions of terms used in this report are available at <https://emr.entsoe.eu/>.
- All values of generation and consumption on page 4, 11 and 12 are calculated to represent 100% of the national values.
- All data with the country code GB represents monthly statistical data as sum of England, Scotland and Wales.
- All data with the country code NI represents the monthly statistical data of the Northern Ireland.
- CET: Central European Time.

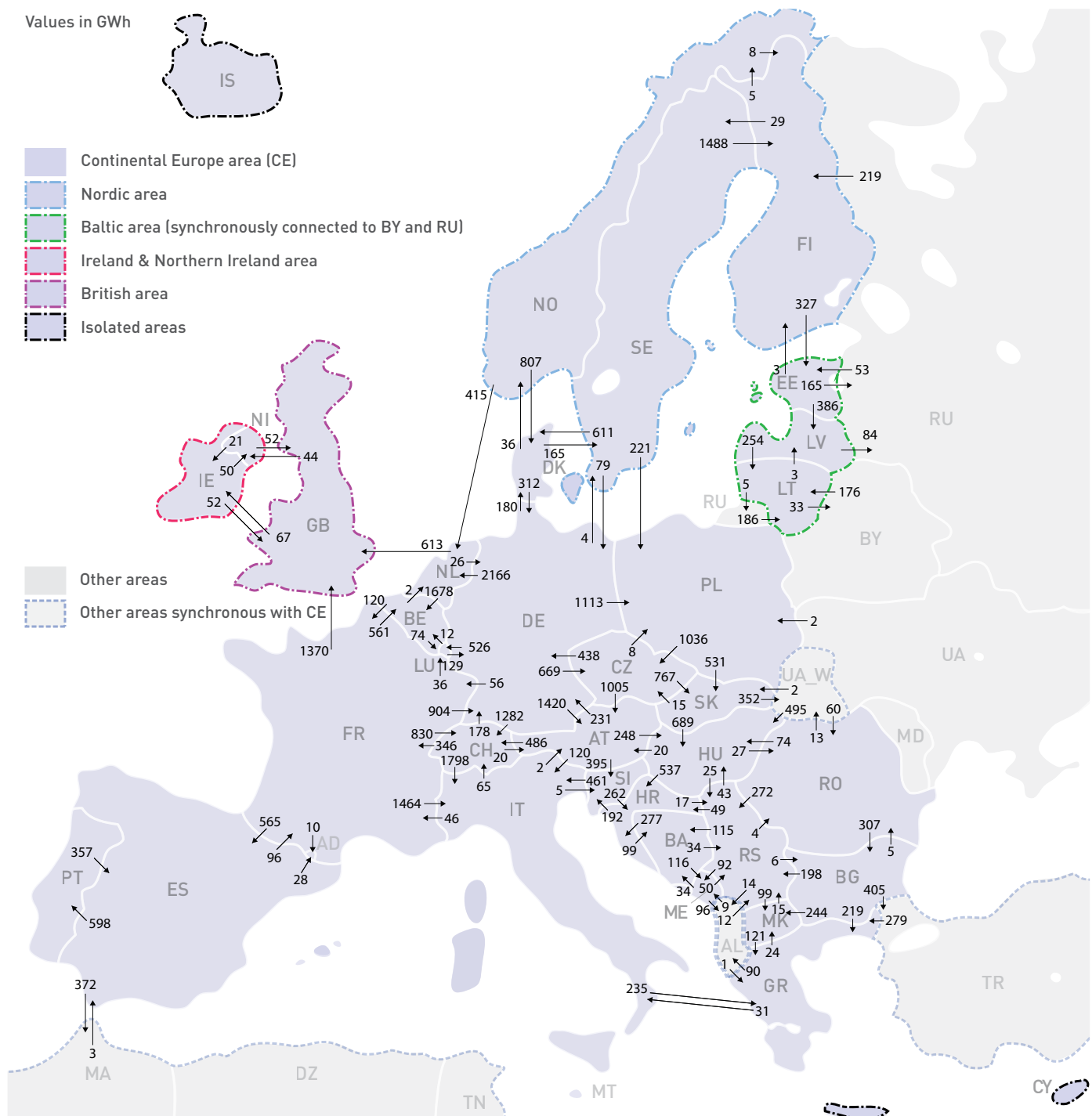
## 1. Electricity supply situation of the countries

|                 | Net generation (GWh) |              |         |              |        |       |       |       |             |        |       |            |        |       |         |       |                                     | Exch.<br>Balance<br>(GWh) | Pumping<br>(GWh) | Consumption |         | (Compared to<br>1 year before) |             |
|-----------------|----------------------|--------------|---------|--------------|--------|-------|-------|-------|-------------|--------|-------|------------|--------|-------|---------|-------|-------------------------------------|---------------------------|------------------|-------------|---------|--------------------------------|-------------|
|                 | Nuclear              | Fossil fuels |         |              |        |       |       |       | Hydro power |        |       | Renewables |        |       |         |       | Not<br>clearly<br>identi-<br>fiable |                           |                  | Σ           | (GWh)   |                                | var.<br>(%) |
|                 |                      | Σ            | Lignite | Hard<br>coal | Gas    | Oil   | Mixed | Other | Σ           | Renew. | Other | Σ          | Wind   | Solar | Biomass | Other |                                     |                           |                  |             |         |                                |             |
| AT <sup>1</sup> | -                    | 914          | -       | 156          | 502    | 44    | -     | 212   | 2 788       | 2 488  | 300   | 437        | 437    | -     | -       | -     | 663                                 | 4 802                     | 897              | 428         | 5 271   | -5.8                           |             |
| BA              | -                    | 842          | 842     | -            | -      | -     | -     | -     | 264         | 264    | -     | -          | -      | -     | -       | -     | -                                   | 1 106                     | - 179            | -           | 927     | 2.9                            |             |
| BE <sup>2</sup> | 1 100                | 2 471        | -       | 421          | 2 044  | 6     | -     | -     | 103         | 13     | 90    | 1 201      | 383    | 279   | 539     | -     | -                                   | 4 875                     | 2 053            | 122         | 6 806   | 2.6                            |             |
| BG <sup>2</sup> | 739                  | 1 901        | 1 779   | 62           | 60     | -     | -     | -     | 347         | 315    | 32    | 238        | 101    | 120   | 17      | -     | -                                   | 3 225                     | - 763            | 46          | 2 416   | 2.5                            |             |
| CH              | 1 261                | 175          | -       | -            | -      | -     | -     | 175   | 3 241       | -      | 3 241 | 156        | 11     | -     | -       | 145   | -                                   | 4 833                     | 312              | 246         | 4 899   | 0.2                            |             |
| CY              | -                    | 427          | -       | -            | -      | 427   | -     | -     | -           | -      | -     | 14         | 14     | -     | -       | -     | -                                   | 441                       | -                | -           | 441     | 10.3                           |             |
| CZ              | 1 674                | 3 036        | 2 285   | 384          | 353    | 2     | -     | 12    | 173         | 86     | 87    | 589        | 40     | 204   | 148     | 197   | -                                   | 5 472                     | - 497            | 110         | 4 865   | 1.0                            |             |
| DE <sup>3</sup> | 7 278                | 26 286       | 13 289  | 9 962        | 1 871  | 71    | 1 093 | -     | 1 577       | 1 048  | 529   | 11 589     | 5 295  | 3 128 | 3 076   | 90    | -                                   | 46 730                    | -5 123           | 600         | 41 007  | -3.1                           |             |
| DK              | -                    | 396          | -       | 289          | 107    | -     | -     | -     | 1           | 1      | -     | 1 215      | 976    | 57    | 182     | -     | -                                   | 1 612                     | 1 085            | -           | 2 697   | 3.8                            |             |
| EE <sup>4</sup> | -                    | 694          | -       | -            | -      | -     | -     | 694   | 1           | 1      | -     | 103        | 37     | -     | 66      | -     | -                                   | 798                       | - 174            | -           | 624     | 3.0                            |             |
| ES              | 4 893                | 9 874        | 422     | 4 379        | 4 122  | 951   | -     | -     | 1 764       | 1 595  | 169   | 4 647      | 3 014  | 1 201 | 431     | 1     | 124                                 | 21 302                    | - 170            | 245         | 20 887  | -3.4                           |             |
| FI              | 1 764                | 870          | -       | 338          | 288    | 12    | 185   | 47    | 1 264       | 1 264  | -     | 867        | 165    | -     | 702     | -     | 47                                  | 4 812                     | 1 343            | -           | 6 155   | 0.1                            |             |
| FR              | 30 633               | 1 946        | -       | 598          | 1 100  | 248   | -     | -     | 3 423       | 3 131  | 292   | 2 982      | 1 653  | 715   | 614     | -     | -                                   | 38 984                    | -5 181           | 418         | 33 385  | 0.4                            |             |
| GB <sup>2</sup> | 5 032                | 14 952       | -       | 5 239        | 8 066  | 2     | -     | -     | 386         | 107    | 225   | 3 088      | 1 328  | -     | -       | -     | -                                   | 23 458                    | 1 933            | 309         | 25 082  | 0.1                            |             |
| GR              | -                    | 2 287        | 1 670   | -            | 617    | -     | -     | -     | 391         | 27     | 364   | 703        | 251    | 336   | 18      | 98    | -                                   | 3 381                     | 710              | 5           | 4 086   | 6.5                            |             |
| HR              | -                    | 228          | -       | 185          | 43     | -     | -     | -     | 224         | 224    | -     | 89         | 89     | -     | -       | -     | -                                   | 541                       | 813              | 18          | 1 336   | 1.7                            |             |
| HU              | 1 314                | 793          | 509     | 46           | 233    | 5     | -     | -     | 9           | 9      | -     | 257        | 76     | 1     | 142     | 38    | -                                   | 2 373                     | 940              | -           | 3 313   | 2.6                            |             |
| IE              | -                    | 1 707        | 240     | 356          | 1 104  | 1     | -     | 6     | 60          | 38     | 22    | 403        | 382    | -     | -       | 21    | -                                   | 2 170                     | - 11             | 39          | 2 120   | 3.1                            |             |
| IS              | -                    | -            | -       | -            | -      | -     | -     | -     | 1 088       | 1 088  | -     | 362        | 1      | -     | -       | 361   | -                                   | 1 450                     | -                | -           | 1 450   | -0.3                           |             |
| IT              | -                    | 14 115       | -       | 3 344        | 7 968  | 363   | 2 440 | -     | 3 573       | 3 472  | 101   | 5 507      | 1 209  | 2 174 | 1 638   | 486   | -                                   | 23 195                    | 3 374            | 120         | 26 449  | 1.0                            |             |
| LT              | -                    | 235          | -       | -            | 190    | -     | 22    | 23    | 87          | 11     | 76    | 71         | 41     | 7     | 23      | -     | -                                   | 393                       | 574              | 101         | 866     | 3.7                            |             |
| LU              | -                    | 19           | -       | -            | 19     | -     | -     | -     | 133         | 4      | 129   | 21         | 8      | 9     | 4       | -     | -                                   | 173                       | 493              | 174         | 492     | -5.0                           |             |
| LV              | -                    | 235          | -       | -            | 194    | -     | 41    | -     | 42          | 42     | -     | 66         | 8      | -     | 28      | 30    | -                                   | 343                       | 219              | -           | 562     | -0.2                           |             |
| ME              | -                    | 140          | 140     | -            | -      | -     | -     | -     | 76          | -      | 76    | -          | -      | -     | -       | -     | -                                   | 216                       | 37               | -           | 253     | 4.1                            |             |
| MK              | -                    | 240          | 240     | -            | -      | -     | -     | -     | 47          | -      | 47    | 9          | 9      | -     | -       | -     | -                                   | 296                       | 229              | -           | 525     | -2.8                           |             |
| NI              | -                    | 535          | -       | 206          | 328    | 1     | -     | -     | 1           | 1      | -     | 122        | 104    | -     | 11      | 7     | -                                   | 658                       | 27               | -           | 685     | -0.7                           |             |
| NL              | 365                  | 7 802        | -       | -            | -      | -     | -     | 7 802 | 2           | 2      | -     | 732        | 390    | 12    | 330     | -     | -                                   | 8 901                     | 248              | -           | 9 149   | 2.0                            |             |
| NO              | -                    | 269          | -       | -            | 269    | -     | -     | -     | 10 722      | 10 722 | -     | 174        | 174    | -     | -       | -     | -                                   | 11 165                    | -2 048           | 138         | 8 979   | 2.9                            |             |
| PL <sup>6</sup> | -                    | 11 053       | 3 880   | 6 134        | 266    | -     | -     | 662   | 123         | 67     | 55    | 1 196      | 635    | 4     | 511     | 34    | -                                   | 12 372                    | - 222            | 77          | 12 073  | 2.1                            |             |
| PT              | -                    | 2 291        | -       | 1 192        | 1 064  | 12    | -     | 23    | 496         | 423    | 73    | 943        | 646    | 68    | 229     | -     | -                                   | 3 730                     | 241              | 90          | 3 881   | -1.4                           |             |
| RO              | 902                  | 2 240        | 1 322   | 117          | 599    | -     | 202   | -     | 935         | 935    | -     | 773        | 556    | 172   | 45      | -     | -                                   | 4 850                     | - 571            | 13          | 4 266   | 2.7                            |             |
| RS              | -                    | 2 240        | 2 240   | -            | -      | -     | -     | -     | 443         | 401    | 42    | -          | -      | -     | -       | -     | -                                   | 2 683                     | 200              | 121         | 2 762   | 2.2                            |             |
| SE              | 4 049                | 149          | -       | -            | 1      | 8     | -     | 140   | 5 331       | 5 331  | -     | 1 735      | 1 157  | -     | 578     | -     | -                                   | 11 264                    | -1 364           | -           | 9 900   | 0.5                            |             |
| SI              | 497                  | 337          | 336     | -            | -      | -     | -     | 1     | 375         | 360    | 15    | 38         | 1      | 20    | 13      | 4     | 4                                   | 1 251                     | - 130            | 22          | 1 099   | 1.6                            |             |
| SK              | 1 200                | 329          | 110     | 71           | 130    | 18    | -     | -     | 199         | 185    | 14    | 153        | -      | 48    | 74      | 31    | 2                                   | 1 883                     | 245              | 19          | 2 109   | 1.4                            |             |
| Σ               | 62 701               | 112 028      | 29 304  | 33 479       | 31 538 | 2 171 | 3 983 | 9 797 | 39 689      | 33 655 | 5 979 | 40 480     | 19 191 | 8 555 | 9 419   | 1 543 | 840                                 | 255 738                   | - 460            | 3 461       | 251 817 | -0.1                           |             |

<sup>1</sup> Renewable hydro: Production run-of-river plus production of storage and pumped storage minus 70% of pumped energy.<sup>5</sup> Delivery from industry<sup>2</sup> The reported figures are best estimates based on actual measurements and extrapolations.<sup>6</sup> Operational data. Biomass generation includes biomass co-fired in conventional thermal units. Other renewable represents biogas. Other fossil fuel represents industry.<sup>3</sup> RES (other than hydro) and exchange balance from TSO data, rest from official statistics<sup>4</sup> Of which other fossil fuel - oil shale



## 2. Physical energy flows



Sum of physical energy flows between ENTSO-E countries: 35 057 GWh

Total physical energy flows: 38 183 GWh

Not ENTSO-E members: Albania, Andorra, Belarus, Morocco, Republic of Moldavia, Republic of Turkey, Russia, Ukraine and Ukraine West.

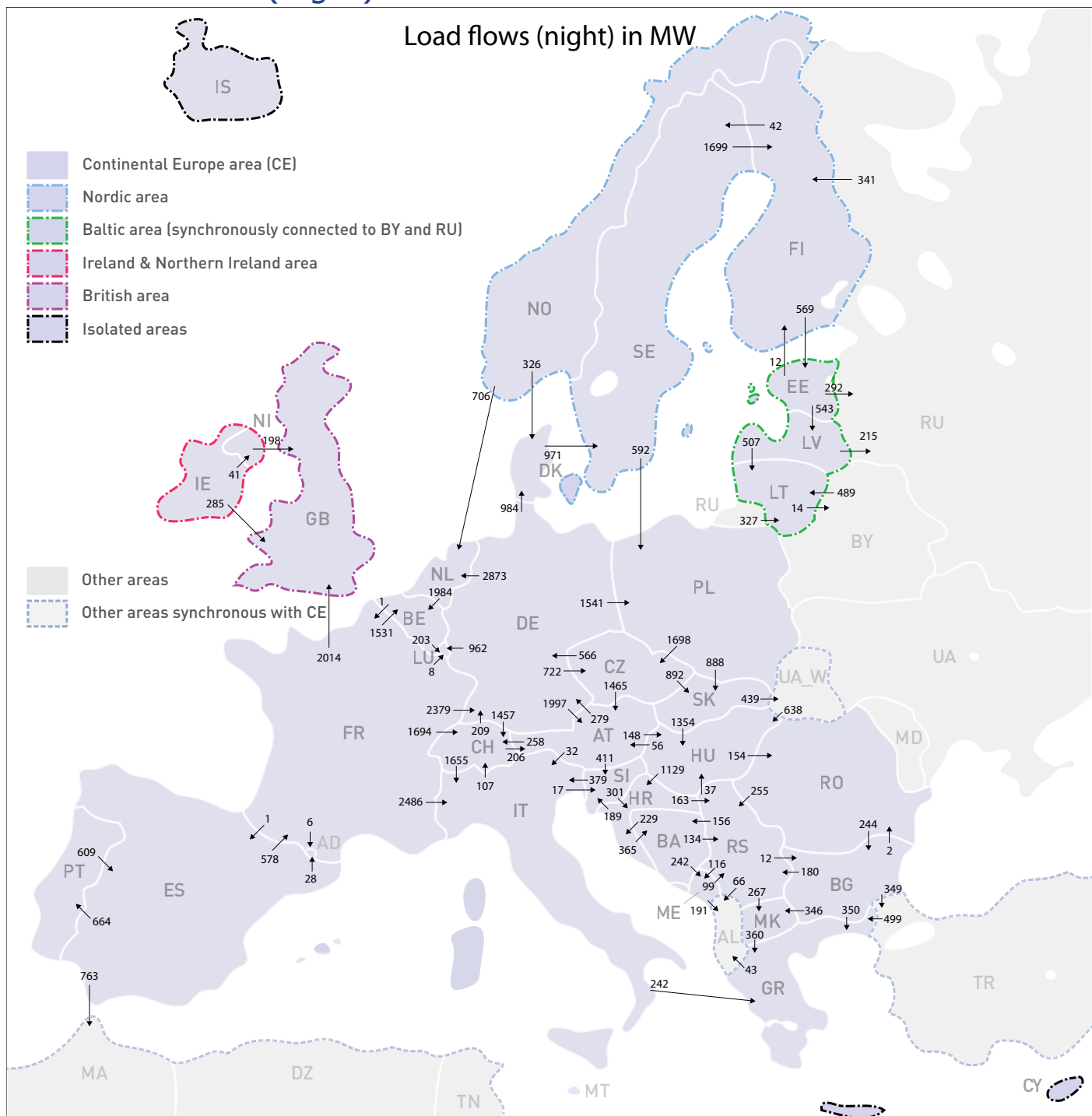
These physical energy flows were measured on the cross-frontier transmission lines ( $\geq 110$  kV) listed in table “Characteristics of the cross-frontier lines” published in the Yearly Statistic & Adequacy Retrospect. These values may differ from the official statistics and the exchange balances on page 4.

### 3. Overview of the detailed physical energy flows in GWh

|                    | Importing countries |     |       |     |       |       |       |       |     |     |       |     |       |     |       |       |    |       |     |     |     |     |     |     |       |     |       |     |     |     |     |     | Sum exp. |       |                    |
|--------------------|---------------------|-----|-------|-----|-------|-------|-------|-------|-----|-----|-------|-----|-------|-----|-------|-------|----|-------|-----|-----|-----|-----|-----|-----|-------|-----|-------|-----|-----|-----|-----|-----|----------|-------|--------------------|
|                    | 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    | Other <sup>1</sup> |
| AT                 | -                   | -   | -     | -   | 486   | -     | 231   | -     | -   | -   | -     | -   | -     | -   | -     | 248   | -  | 120   | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | 395 | -        | -     | 1 480              |
| BA                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | 277   | -     | -  | -     | -   | -   | -   | 116 | -   | -   | -     | -   | -     | -   | -   | 34  | -   | -   | -        | 427   |                    |
| BE                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | 120 | -     | -   | -     | -     | -  | -     | -   | 74  | -   | -   | -   | -   | 2     | -   | -     | -   | -   | -   | -   | -   | -        | 196   |                    |
| BG                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | 219 | -     | -     | -  | -     | -   | -   | -   | 244 | -   | -   | -     | -   | -     | 5   | 198 | -   | -   | -   | 405      | 1 071 |                    |
| CH                 | 20                  | -   | -     | -   | -     | -     | 178   | -     | -   | -   | -     | 346 | -     | -   | -     | -     | -  | 1 798 | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 2 342 |                    |
| CZ                 | 1 005               | -   | -     | -   | -     | -     | 438   | -     | -   | -   | -     | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | 8   | -     | -   | -   | -   | -   | 767 | -        | 2 218 |                    |
| DE                 | 1 420               | -   | -     | -   | 1 282 | 669   | -     | 180   | -   | -   | -     | 56  | -     | -   | -     | -     | -  | -     | -   | 526 | -   | -   | -   | -   | 2 166 | -   | 1 113 | -   | -   | -   | 4   | -   | -        | -     | 7 416              |
| DK                 | -                   | -   | -     | -   | -     | -     | 312   | -     | -   | -   | -     | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | 36    | -   | -     | -   | -   | 165 | -   | -   | -        | 513   |                    |
| EE                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | 3     | -   | -     | -   | -     | -     | -  | -     | -   | -   | 386 | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | 165      | 554   |                    |
| ES                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | 96  | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | 598   | -   | -   | -   | -   | -   | 400      | 1 094 |                    |
| FI                 | -                   | -   | -     | -   | -     | -     | -     | -     | 327 | -   | -     | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | 5   | -     | -   | -   | -   | 29  | -   | -        | 361   |                    |
| FR                 | -                   | -   | 561   | -   | 830   | -     | 904   | -     | -   | 565 | -     | -   | 1 370 | -   | -     | -     | -  | 1 464 | -   | 36  | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 10    | 5 740              |
| GB                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | -     | -     | 67 | -     | -   | -   | -   | -   | 44  | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 111   |                    |
| GR                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | -     | -     | -  | 31    | -   | -   | -   | -   | 24  | -   | -     | -   | -     | -   | -   | -   | -   | -   | 90       | 145   |                    |
| HR                 | -                   | 99  | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | 17  | -   | 192 | -        | 308   |                    |
| HU                 | 20                  | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | 537   | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | 27  | 25  | -   | -   | -        | 609   |                    |
| IE                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | 52    | -   | -     | -     | -  | -     | -   | -   | -   | -   | 50  | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 102   |                    |
| IT                 | 2                   | -   | -     | -   | 65    | -     | -     | -     | -   | -   | -     | 46  | -     | 235 | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | 5   | -   | -        | 353   |                    |
| LT                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | -     | -     | -  | -     | -   | -   | 3   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | 38       | 41    |                    |
| LU                 | -                   | -   | 12    | -   | -     | -     | 129   | -     | -   | -   | -     | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 141   |                    |
| LV                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | -     | -     | -  | -     | -   | 254 | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 254   |                    |
| ME                 | -                   | 34  | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | 50  | -   | -   | -   | 96       | 180   |                    |
| MK                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | 121 | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | 15  | -   | -   | -   | -        | 136   |                    |
| NI                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | 52    | -   | -     | -     | 21 | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 73    |                    |
| NL                 | -                   | -   | 1 678 | -   | -     | -     | 26    | -     | -   | -   | -     | 613 | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 2 317 |                    |
| NO                 | -                   | -   | -     | -   | -     | -     | -     | 807   | -   | -   | 8     | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | 415 | -     | -   | -     | -   | -   | -   | -   | -   | -        | 1 230 |                    |
| PL                 | -                   | -   | -     | -   | -     | 1 036 | -     | -     | -   | -   | -     | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | 531 | -   | 1 567    |       |                    |
| PT                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | 357 | -     | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 357   |                    |
| RO                 | -                   | -   | -     | 307 | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | -     | 74    | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | 272 | -   | -   | 13       | 666   |                    |
| RS                 | -                   | 115 | -     | 6   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | 49    | 43    | -  | -     | -   | -   | 92  | 99  | -   | -   | -     | -   | -     | 4   | -   | -   | -   | -   | 14       | 422   |                    |
| SE                 | -                   | -   | -     | -   | -     | -     | 79    | 611   | -   | -   | 1 488 | -   | -     | -   | -     | -     | -  | -     | -   | -   | -   | -   | -   | -   | -     | 221 | -     | -   | -   | -   | -   | -   | -        | 2 399 |                    |
| SI                 | -                   | -   | -     | -   | -     | -     | -     | -     | -   | -   | -     | -   | -     | -   | 262   | -     | -  | 461   | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | -        | 723   |                    |
| SK                 | -                   | -   | -     | -   | -     | 15    | -     | -     | -   | -   | -     | -   | -     | -   | -     | 689   | -  | -     | -   | -   | -   | -   | -   | -   | -     | -   | -     | -   | -   | -   | -   | -   | 352      | 1 056 |                    |
| Other <sup>1</sup> | -                   | -   | -     | -   | -     | -     | -     | -     | 53  | 3   | 219   | -   | -     | 280 | -     | 495   | -  | -     | 362 | -   | 84  | 9   | -   | -   | -     | -   | 2     | -   | 60  | 12  | -   | 2   | -        | 1 581 |                    |
| Sum imp.           | 2 467               | 248 | 2 251 | 313 | 2 663 | 1 720 | 2 297 | 1 598 | 380 | 925 | 1 718 | 664 | 2 087 | 855 | 1 125 | 1 549 | 88 | 3 874 | 616 | 636 | 473 | 217 | 367 | 94  | 2 583 | 41  | 1 344 | 598 | 96  | 623 | 198 | 592 | 1 300    | 1 583 |                    |

<sup>1</sup> Other: Albania, Andorra, Belarus, Morocco, Republic of Moldavia, Republic of Turkey, Russia, Ukraine and Ukraine-West.

## 4. Load flows (night) on 16.09.2015 at 03:00 a.m. CET



### Import (I) and Export (E) balance

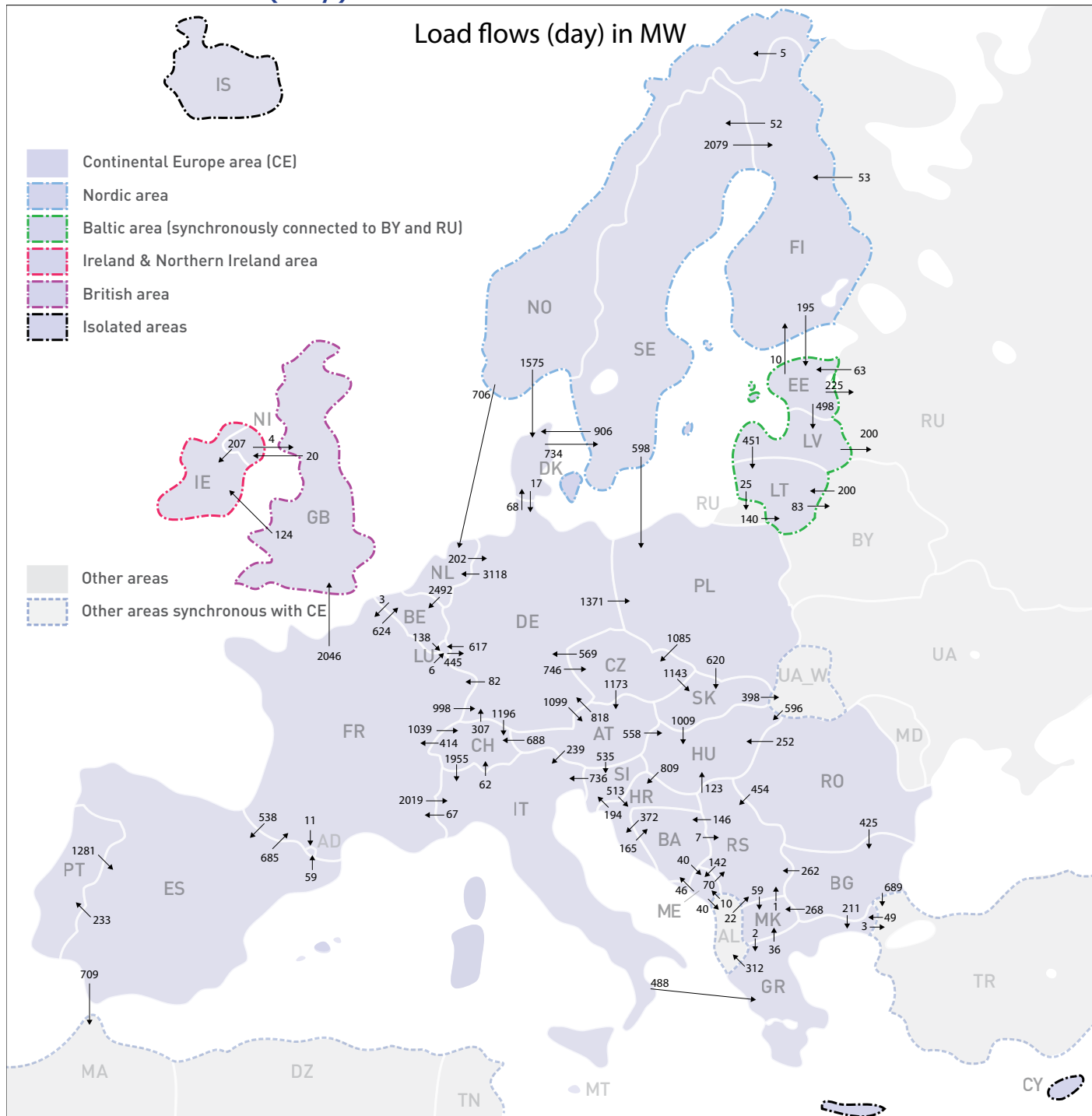
| Country         | Balance  | Country | Balance  | Country         | Balance  | Country | Balance  |
|-----------------|----------|---------|----------|-----------------|----------|---------|----------|
| AT              | I = 2596 | EE      | E = 278  | IS <sup>1</sup> | -        | NO      | E = 1032 |
| BA              | E = 84   | ES      | E = 1423 | IT              | I = 4186 | PL      | E = 453  |
| BE              | I = 3311 | FI      | I = 1441 | LT              | I = 1309 | PT      | I = 55   |
| BG              | E = 971  | FR      | E = 9540 | LU              | I = 1173 | RO      | E = 343  |
| CH              | I = 1446 | GB      | I = 2497 | LV              | I = 251  | RS      | I = 177  |
| CY <sup>2</sup> | -        | GR      | I = 1408 | ME              | I = 68   | SE      | E = 1278 |
| CZ              | E = 503  | HR      | I = 942  | MK              | I = 253  | SI      | E = 63   |
| DE              | E = 7103 | HU      | I = 838  | NL              | I = 1595 | SK      | E = 13   |
| DK              | I = 339  | IE      | E = 326  |                 |          |         |          |

Sum of load flows (night) in MW:      ENTSO-E: 47 405      Total: 52 071<sup>2</sup>

<sup>1</sup> Cyprus and Iceland are isolated power systems and therefore are not connected to the ENTSO-E network.

<sup>2</sup> Including synchronous operation with ENTSO-E region.

## 5. Load flows (day) on 16.09.2015 at 11:00 a.m. CET



### Import (I) and Export (E) balance

| Country         | Balance  | Country | Balance  | Country         | Balance  | Country | Balance  |
|-----------------|----------|---------|----------|-----------------|----------|---------|----------|
| AT              | E = 566  | EE      | E = 475  | IS <sup>1</sup> | -        | NO      | E = 2276 |
| BA              | E = 62   | ES      | I = 133  | IT              | I = 4332 | PL      | I = 264  |
| BE              | I = 2975 | FI      | I = 1890 | LT              | I = 683  | PT      | E = 1048 |
| BG              | E = 1005 | FR      | E = 6030 | LU              | I = 316  | RO      | E = 1131 |
| CH              | I = 309  | GB      | I = 1906 | LV              | I = 247  | RS      | I = 346  |
| CY <sup>2</sup> | -        | GR      | I = 399  | ME              | I = 36   | SE      | E = 2797 |
| CZ              | E = 1054 | HR      | I = 1335 | MK              | I = 360  | SI      | E = 520  |
| DE              | E = 4941 | HU      | I = 1729 | NI              | E = 191  | SK      | I = 356  |
| DK              | I = 1798 | IE      | I = 331  | NL              | I = 1130 |         |          |

Sum of load flows (day) in MW:

ENTSO-E: 46 360

Total: 50 177<sup>2</sup>

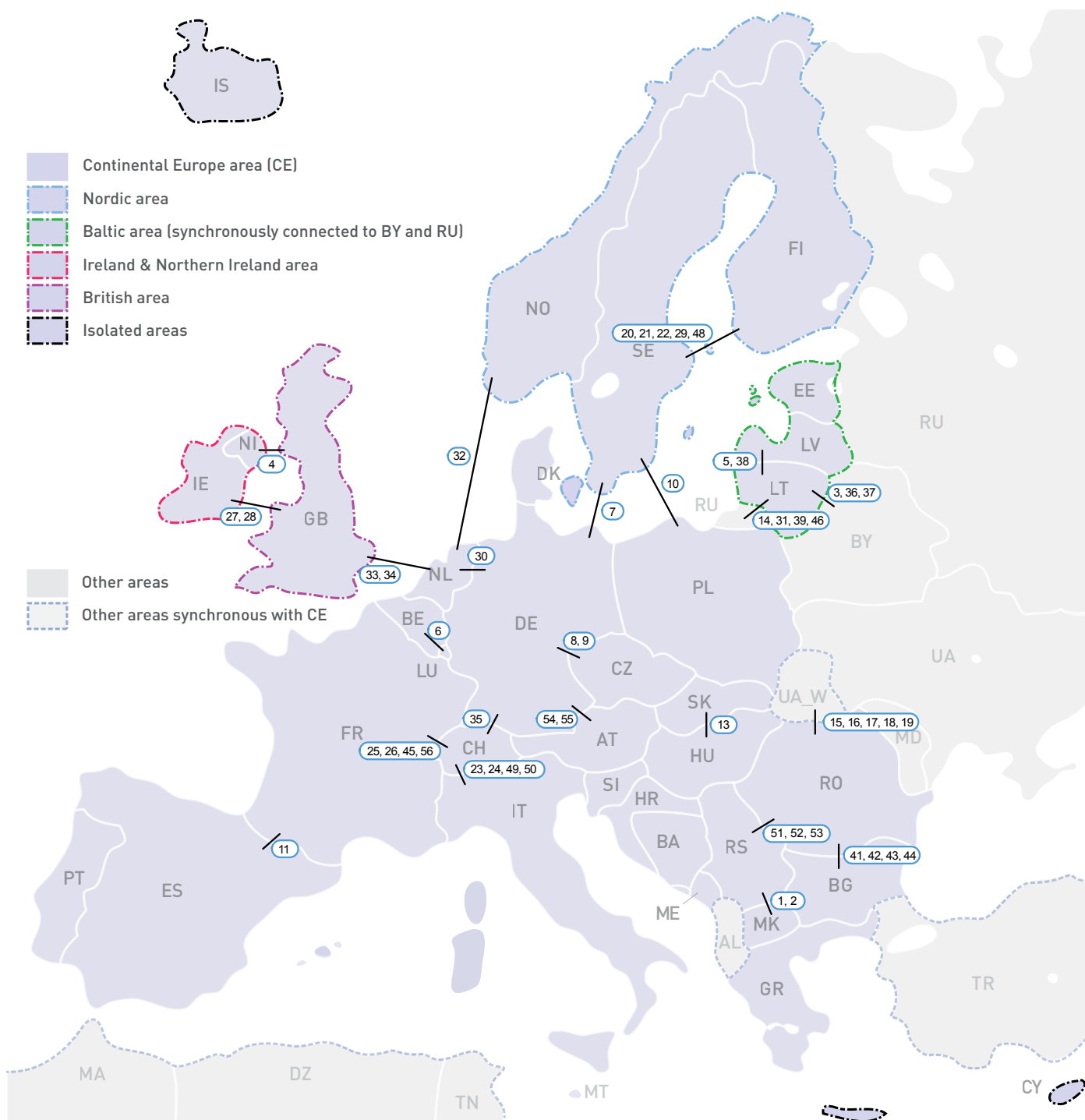
<sup>1</sup> Cyprus and Iceland are isolated power systems and therefore are not connected to the ENTSO-E network.

<sup>2</sup> Including synchronous operation with ENTSO-E region.



## 6. Unavailability of international tie lines

(major events with sum over 30 hours)



Each unavailability is referred by number with description on the following page.

## 6. Unavailability of international tie lines

(major events with sum over 30 hours)

| #  | Line    | Substation 1           | Substation 2           | Voltage (kV) | Capacity (MVA) | Date/Time Start  | Reason | Duration (minutes) |
|----|---------|------------------------|------------------------|--------------|----------------|------------------|--------|--------------------|
| 1  | 391.1.1 | Skopje 1 (MK)          | Kosovo A (RS)          | 220          | 311            | 01.09.2015 00:00 | R9     | 43 200             |
| 2  | 391.2.1 | Skopje 1 (MK)          | Kosovo A (RS)          | 220          | 311            | 01.09.2015 00:00 | R9     | 43 200             |
| 3  | 861.1.1 | IAE (LT)               | Smorgon (BY)           | 330          | 832            | 01.09.2015 00:00 | R9     | 43 200             |
| 4  | 222.2.1 | Auchencrosh (GB)       | Ballycronamore (NI)    | 250          | 250            | 01.09.2015 01:00 | R10    | 43 140             |
| 5  | 850.1.1 | Šiauliai/Telšiai (LT)  | Jelgava (Viskai) (LV)  | 330          | 696            | 07.09.2015 08:45 | R2     | 34 035             |
| 6  | 41.1.2  | Aubange (BE)           | Belval (LU)            | 220          | 358            | 09.09.2015 08:53 | R9     | 30 609             |
| 7  | 401.1.1 | Herrenwyk (DE)         | Kruseberg (SE)         | 450          | 600            | 14.09.2015 06:37 | R1     | 24 083             |
| 8  | 322.1.2 | Hradec Vychod (CZ)     | Röhrsdorf (DE)         | 400          | 1 386          | 07.09.2015 07:39 | R1     | 13 083             |
| 9  | 322.1.2 | Hradec Vychod (CZ)     | Röhrsdorf (DE)         | 400          | 1 386          | 23.09.2015 06:26 | R1     | 3 709              |
| 10 | 704.1.1 | Slupsk (PL)            | Stårnø (SE)            | 450          | 600            | 19.09.2015 08:37 | R1     | 16 763             |
| 11 | 151.4.1 | Biescas (ES)           | Pragnères (FR)         | 220          | 290            | 14.09.2015 09:20 | R8     | 15 910             |
| 12 | 51.3.1  | Achene (BE)            | Lonny (FR)             | 380          | 1 177          | 14.09.2015 08:18 | R1     | 12 187             |
| 13 | 711.1.1 | Göd (HU)               | Levice (SK)            | 400          | 1 552          | 05.09.2015 07:49 | R1     | 12 134             |
| 14 | 881.1.1 | Bitėnai (LT)           | Sovetsk (RU)           | 330          | 696            | 23.09.2015 10:04 | R2     | 10 916             |
| 15 | 740.1.1 | Rosiori (RO)           | Mukachevo (UA_W)       | 400          | 1 121          | 07.09.2015 06:20 | R1     | 751                |
| 16 | 740.1.1 | Rosiori (RO)           | Mukachevo (UA_W)       | 400          | 1 121          | 08.09.2015 06:15 | R1     | 646                |
| 17 | 740.1.1 | Rosiori (RO)           | Mukachevo (UA_W)       | 400          | 1 121          | 09.09.2015 06:24 | R1     | 657                |
| 18 | 740.1.1 | Rosiori (RO)           | Mukachevo (UA_W)       | 400          | 1 121          | 10.09.2015 06:27 | R1     | 682                |
| 19 | 740.1.1 | Rosiori (RO)           | Mukachevo (UA_W)       | 400          | 1 121          | 11.09.2015 06:22 | R1     | 7 855              |
| 20 | 803.1.1 | Raumo (FI)             | Forsmark (SE)          | 400          | 550            | 15.09.2015 00:30 | R6     | 585                |
| 21 | 803.1.1 | Raumo (FI)             | Forsmark (SE)          | 400          | 550            | 19.09.2015 07:18 | R6     | 24                 |
| 22 | 803.1.1 | Raumo (FI)             | Forsmark (SE)          | 400          | 550            | 21.09.2015 10:00 | R1     | 9 360              |
| 23 | 124.1.1 | Robbia (CH)            | Gorlago (IT)           | 380          | 1 330          | 14.09.2015 07:00 | R1     | 9 240              |
| 24 | 124.1.2 | Robbia (CH)            | San Fiorano (IT)       | 380          | 1 330          | 14.09.2015 07:00 | R1     | 9 240              |
| 25 | 82.5.1  | Riddes (CH)            | Cornier (FR)           | 220          | 355            | 07.09.2015 06:30 | R1     | 4 290              |
| 26 | 82.5.1  | Riddes (CH)            | Cornier (FR)           | 220          | 355            | 14.09.2015 10:00 | R1     | 3 300              |
| 27 | 223.1.1 | Deeside (GB)           | Woodland (IE)          | 400          | 500            | 08.09.2015 00:00 | R1     | 5 580              |
| 28 | 223.1.1 | Deeside (GB)           | Woodland (IE)          | 400          | 500            | 28.09.2015 09:00 | R1     | 1 440              |
| 29 | 805.1.1 | Raumo (FI)             | Finnbøle (SE)          | 500          | 800            | 26.09.2015 07:00 | R1     | 6 780              |
| 30 | 11.1.2  | Diele (DE)             | Meeden (NL)            | 400          | 1 535          | 14.09.2015 07:46 | R1     | 6 183              |
| 31 | 882.1.1 | Kruonio HAE (LT)       | Sovetsk (RU)           | 330          | 696            | 07.09.2015 11:31 | R1     | 6 025              |
| 32 | 27.1.1  | Eemshaven (NL)         | Feda (NO)              | 450          | 700            | 01.09.2015 00:00 | R1     | 5 340              |
| 33 | 28.1.1  | Isle of Grain (GB)     | Maasvlakte (NL)        | 450          | 500            | 14.09.2015 07:00 | R1     | 5 340              |
| 34 | 28.2.1  | Isle of Grain (GB)     | Maasvlakte (NL)        | 450          | 500            | 14.09.2015 07:00 | R1     | 5 340              |
| 35 | 107.1.1 | Laufenburg 220 kV (CH) | Laufenburg 110 kV (DE) | 110          | 200            | 01.09.2015 00:01 | R2     | 5 339              |
| 36 | 871.1.1 | Leipalingis (LT)       | Grodno (BY)            | 110          | 76             | 16.09.2015 09:30 | R2     | 3 220              |
| 37 | 871.1.1 | Leipalingis (LT)       | Grodno (BY)            | 110          | 76             | 21.09.2015 11:20 | R2     | 1 880              |
| 38 | 852.1.1 | Klaipėda (LT)          | Grobina (LV)           | 330          | 696            | 01.09.2015 10:04 | R9     | 4 658              |
| 39 | 883.1.1 | Kybartai (LT)          | Nesterovo (RU)         | 110          | 76             | 01.09.2015 10:59 | R1     | 4 646              |
| 40 | 51.1.1  | Monceau (BE)           | Chooz (FR)             | 220          | 360            | 11.09.2015 11:24 | R2     | 4 572              |
| 41 | 275.1.1 | Stupina (RO)           | Varna (BG)             | 400          | 2 145          | 14.09.2015 08:09 | R1     | 2 926              |
| 42 | 275.1.1 | Stupina (RO)           | Varna (BG)             | 400          | 2 145          | 17.09.2015 09:20 | R1     | 407                |
| 43 | 275.1.1 | Stupina (RO)           | Varna (BG)             | 400          | 2 145          | 18.09.2015 08:00 | R1     | 435                |
| 44 | 275.1.1 | Stupina (RO)           | Varna (BG)             | 400          | 2 145          | 23.09.2015 08:20 | R1     | 516                |
| 45 | 82.4.1  | Vallorcine (CH)        | Pressy (FR)            | 220          | 355            | 28.09.2015 07:00 | R1     | 3 900              |
| 46 | 880.1.1 | Bitėnai (LT)           | Sovetsk (RU)           | 330          | 696            | 28.09.2015 07:16 | R2     | 3 884              |
| 47 | 51.2.2  | Avelgem (BE)           | Avelin (FR)            | 380          | 1 367          | 28.09.2015 06:35 | R1     | 3 568              |
| 48 | 801.1.1 | Petäjäskoski (FI)      | Letsi (SE)             | 400          | 0              | 08.09.2015 08:00 | R1     | 3 540              |
| 49 | 123.1.1 | Riddes (CH)            | Avise (IT)             | 220          | 323            | 17.09.2015 12:26 | R6     | 301                |
| 50 | 123.1.1 | Riddes (CH)            | Avise (IT)             | 220          | 323            | 24.09.2015 08:00 | R1     | 1 950              |
| 51 | 261.1.1 | Djerdap 1 (RS)         | Portile de Fier (RO)   | 400          | 1 250          | 01.09.2015 06:42 | R1     | 731                |
| 52 | 261.1.1 | Djerdap 1 (RS)         | Portile de Fier (RO)   | 400          | 1 250          | 02.09.2015 06:42 | R1     | 770                |
| 53 | 261.1.1 | Djerdap 1 (RS)         | Portile de Fier (RO)   | 400          | 1 250          | 03.09.2015 08:24 | R1     | 602                |
| 54 | 117.1.1 | Silz (AT)              | Oberbrunn (DE)         | 220          | 793            | 07.09.2015 11:15 | R1     | 1 710              |
| 55 | 117.1.1 | Silz (AT)              | Oberbrunn (DE)         | 220          | 793            | 17.09.2015 08:00 | R1     | 225                |
| 56 | 82.1.2  | Chamoson (CH)          | Bois-Tollot (FR)       | 380          | 1 552          | 10.09.2015 08:30 | R9     | 1 830              |

R1: Maintenance

R2: Repair

R3: New constructions

R4: Overload (also calculated break)

R5: False operation

R6: Failure in protection device or other element

R7: Outside impacts (animals, trees, fire, avalanches, ...)

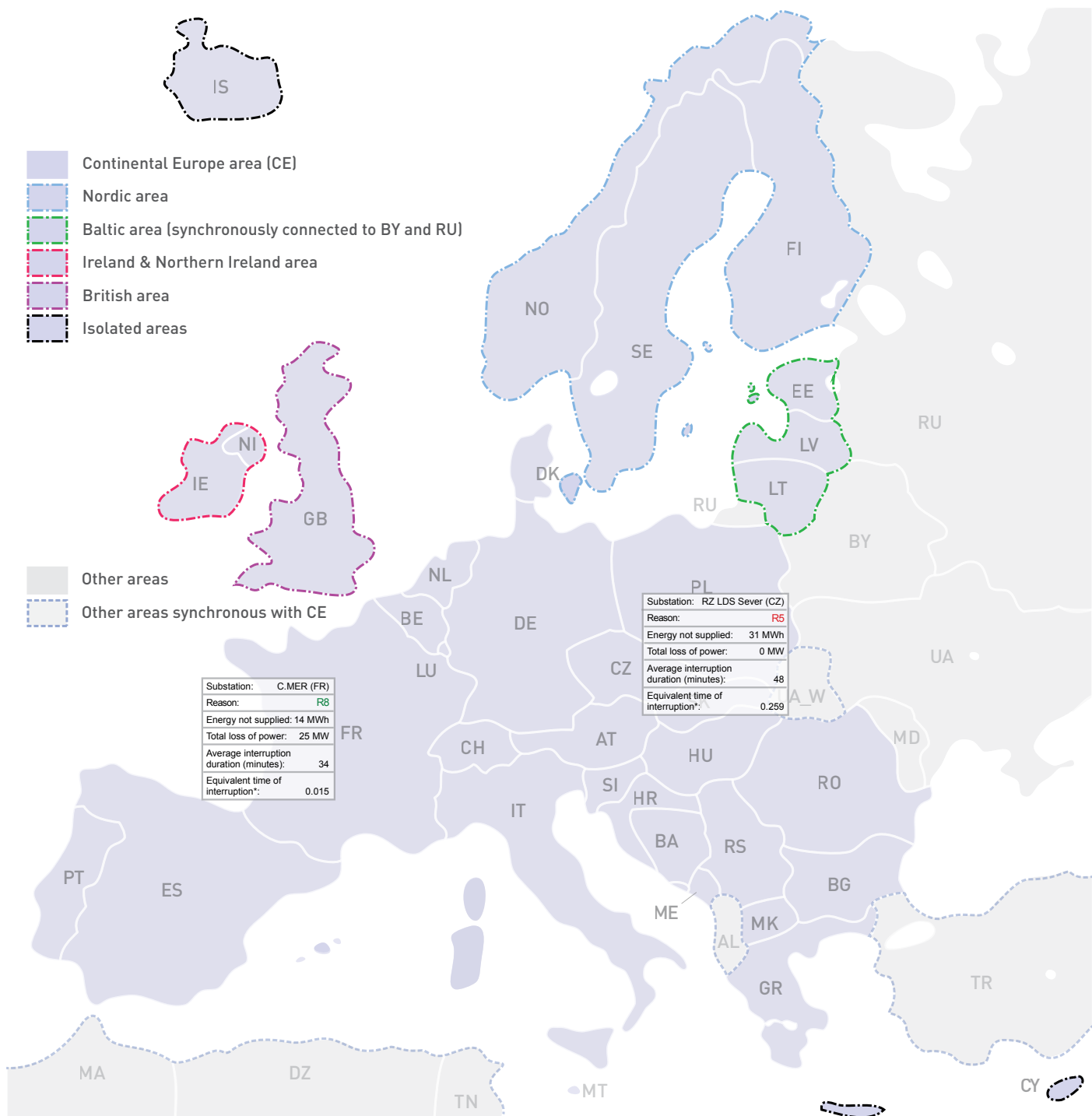
R8: Very exceptional conditions (weather, natural disaster, ...)

R9: Other reasons

R10: Unknown reasons

## 7. Supply interruption

(major reported events)



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

Information about incidents in other countries are not shown with energy not supply equal zero or unavailable in the database.

\* Equivalent time of interruption: ( year [in min] \* energy not supplied ) / consumption last 12 months.

## 8. Highest and lowest load values of the month

The following table shows highest and lowest load values<sup>1</sup> collected over the previous 12 months (Sep. 2014 to Aug. 2015) and includes the reporting month for purposes of comparison.

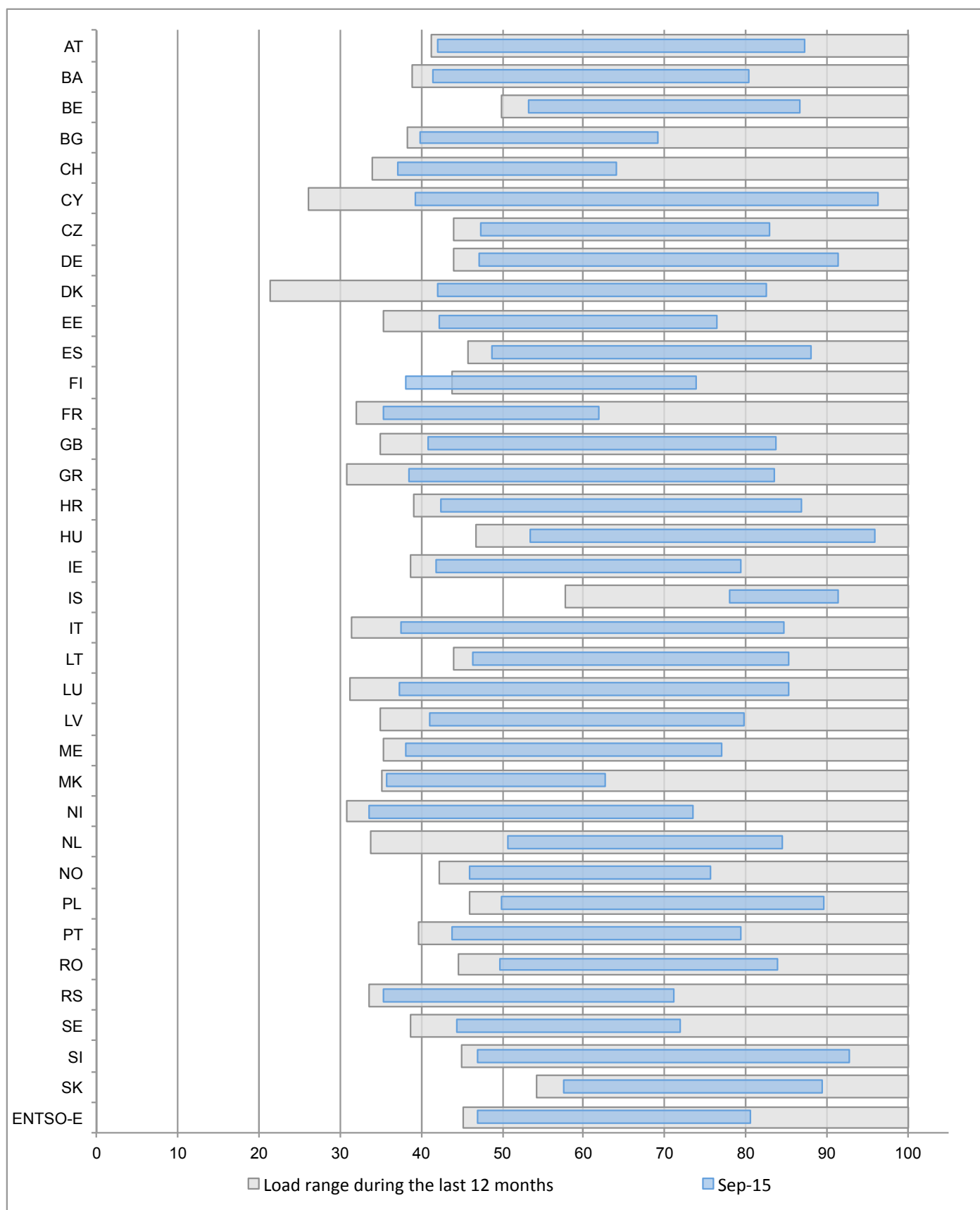
|                 | Highest load values in MW |          |       |                |          |       | Lowest load values in MW |          |       |                |          |       |
|-----------------|---------------------------|----------|-------|----------------|----------|-------|--------------------------|----------|-------|----------------|----------|-------|
|                 | Last 12 months            |          |       | Reported month |          |       | Last 12 months           |          |       | Reported month |          |       |
|                 | Load value                | Date     | Time  | Load value     | Date     | Time  | Load value               | Date     | Time  | Load value     | Date     | Time  |
| AT              | 11 471                    | 10/12/14 | 17:00 | 10 018         | 24/09/15 | 12:00 | 4 722                    | 23/08/15 | 04:00 | 4 828          | 06/09/15 | 05:00 |
| BA              | 2 207                     | 31/12/14 | 18:00 | 1 774          | 23/09/15 | 20:00 | 858                      | 02/05/15 | 04:00 | 914            | 28/09/15 | 04:00 |
| BE <sup>2</sup> | 13 129                    | 22/01/15 | 19:00 | 11 371         | 23/09/15 | 12:00 | 6 556                    | 02/08/15 | 07:00 | 6 995          | 13/09/15 | 05:00 |
| BG <sup>2</sup> | 7 106                     | 31/12/14 | 19:00 | 4 914          | 03/09/15 | 21:00 | 2 715                    | 07/09/14 | 04:00 | 2 829          | 27/09/15 | 05:00 |
| CH              | 10 155                    | 12/02/15 | 09:00 | 6 496          | 17/09/15 | 12:00 | 3 441                    | 17/08/15 | 05:00 | 3 774          | 20/09/15 | 00:00 |
| CY              | 954                       | 04/08/15 | 15:00 | 919            | 08/09/15 | 15:00 | 248                      | 20/10/14 | 03:00 | 375            | 30/09/15 | 05:00 |
| CZ              | 10 058                    | 10/12/14 | 17:00 | 8 334          | 30/09/15 | 20:00 | 4 428                    | 02/08/15 | 06:00 | 4 754          | 06/09/15 | 06:00 |
| DE              | 81 567                    | 03/12/14 | 18:00 | 74 594         | 17/09/15 | 12:00 | 35 938                   | 25/05/15 | 04:00 | 38 409         | 20/09/15 | 04:00 |
| DK              | 5 844                     | 10/06/15 | 11:00 | 4 822          | 17/09/15 | 11:00 | 1 251                    | 28/03/15 | 00:00 | 2 454          | 20/09/15 | 04:00 |
| EE              | 1 408                     | 02/12/14 | 16:00 | 1 076          | 16/09/15 | 13:00 | 498                      | 26/07/15 | 05:00 | 594            | 07/09/15 | 03:00 |
| ES              | 40 324                    | 04/02/15 | 21:00 | 35 524         | 01/09/15 | 14:00 | 18 426                   | 25/12/14 | 06:00 | 19 617         | 20/09/15 | 06:00 |
| FI              | 13 567                    | 22/01/15 | 08:00 | 10 014         | 29/09/15 | 20:00 | 5 932                    | 21/06/15 | 05:00 | 5 162          | 19/09/15 | 03:00 |
| FR              | 91 611                    | 06/02/15 | 19:00 | 56 682         | 16/09/15 | 12:00 | 29 299                   | 16/08/15 | 07:00 | 32 376         | 13/09/15 | 05:00 |
| GB <sup>2</sup> | 59 576                    | 19/01/15 | 19:00 | 49 821         | 29/09/15 | 21:00 | 20 871                   | 12/07/15 | 07:00 | 24 381         | 12/09/15 | 06:00 |
| GR              | 9 813                     | 30/07/15 | 13:00 | 8 195          | 07/09/15 | 13:00 | 3 021                    | 12/10/14 | 15:00 | 3 768          | 28/09/15 | 04:00 |
| HR              | 2 974                     | 31/12/14 | 18:00 | 2 584          | 01/09/15 | 21:00 | 1 160                    | 22/06/15 | 06:00 | 1 260          | 14/09/15 | 04:00 |
| HU              | 6 106                     | 08/07/15 | 13:00 | 5 855          | 01/09/15 | 15:00 | 2 857                    | 25/05/15 | 06:00 | 3 262          | 27/09/15 | 04:00 |
| IE              | 4 662                     | 14/01/15 | 18:00 | 3 702          | 29/09/15 | 22:00 | 1 804                    | 19/07/15 | 08:00 | 1 951          | 13/09/15 | 06:00 |
| IS              | 2 327                     | 25/02/15 | 14:00 | 2 127          | 30/09/15 | 11:00 | 1 346                    | 13/10/14 | 01:00 | 1 817          | 13/09/15 | 01:00 |
| IT              | 59 648                    | 22/07/15 | 16:00 | 50 480         | 02/09/15 | 12:00 | 18 738                   | 26/12/14 | 05:00 | 22 408         | 28/09/15 | 04:00 |
| LT              | 1 783                     | 04/12/14 | 16:00 | 1 521          | 15/09/15 | 10:00 | 784                      | 12/07/15 | 05:00 | 828            | 07/09/15 | 03:00 |
| LU              | 1 087                     | 07/07/15 | 12:00 | 928            | 18/09/15 | 12:00 | 339                      | 02/08/15 | 04:00 | 405            | 06/09/15 | 05:00 |
| LV              | 1 251                     | 03/12/14 | 16:00 | 998            | 16/09/15 | 09:00 | 438                      | 25/06/15 | 04:00 | 513            | 14/09/15 | 03:00 |
| ME              | 638                       | 31/12/14 | 20:00 | 492            | 02/09/15 | 21:00 | 225                      | 11/05/15 | 05:00 | 243            | 13/09/15 | 05:00 |
| MK              | 1 507                     | 31/12/14 | 18:00 | 943            | 06/09/15 | 21:00 | 530                      | 02/06/15 | 04:00 | 538            | 13/09/15 | 05:00 |
| NI              | 1 745                     | 10/12/14 | 19:00 | 1 284          | 22/09/15 | 19:00 | 538                      | 14/07/15 | 07:00 | 584            | 06/09/15 | 06:00 |
| NL              | 18 460                    | 03/12/14 | 18:00 | 15 615         | 16/09/15 | 12:00 | 6 233                    | 29/11/14 | 05:00 | 9 364          | 27/09/15 | 05:00 |
| NO              | 22 530                    | 04/02/15 | 09:00 | 17 063         | 25/09/15 | 10:00 | 9 527                    | 23/08/15 | 06:00 | 10 345         | 05/09/15 | 04:00 |
| PL <sup>3</sup> | 23 463                    | 10/12/14 | 17:00 | 21 015         | 30/09/15 | 20:00 | 10 783                   | 03/05/15 | 06:00 | 11 697         | 13/09/15 | 07:00 |
| PT              | 8 618                     | 07/01/15 | 21:00 | 6 843          | 30/09/15 | 21:00 | 3 412                    | 05/04/15 | 08:00 | 3 767          | 06/09/15 | 08:00 |
| RO              | 8 522                     | 09/12/14 | 18:00 | 7 150          | 02/09/15 | 21:00 | 3 799                    | 12/04/15 | 15:00 | 4 234          | 14/09/15 | 03:00 |
| RS              | 7 399                     | 31/12/14 | 18:00 | 5 269          | 30/09/15 | 20:00 | 2 483                    | 15/09/14 | 04:00 | 2 620          | 14/09/15 | 04:00 |
| SE              | 23 870                    | 29/12/14 | 11:00 | 17 158         | 29/09/15 | 09:00 | 9 221                    | 19/07/15 | 06:00 | 10 576         | 13/09/15 | 05:00 |
| SI              | 2 108                     | 25/11/14 | 18:00 | 1 957          | 01/09/15 | 14:00 | 947                      | 26/12/14 | 04:00 | 989            | 27/09/15 | 05:00 |
| SK              | 4 119                     | 27/11/14 | 18:00 | 3 686          | 30/09/15 | 20:00 | 2 231                    | 02/08/15 | 06:00 | 2 374          | 06/09/15 | 06:00 |
| ENTSO-E         | 528 092                   | 05/02/15 | 19:00 | 425 556        | 01/09/15 | 12:00 | 238 944                  | 16/08/15 | 0.29  | 247 980        | 13/09/15 | 05:00 |

<sup>1</sup> All values are calculated to represent 100% of the national values.

<sup>2</sup> The reported figures are best estimates based on actual measurements and extrapolations.

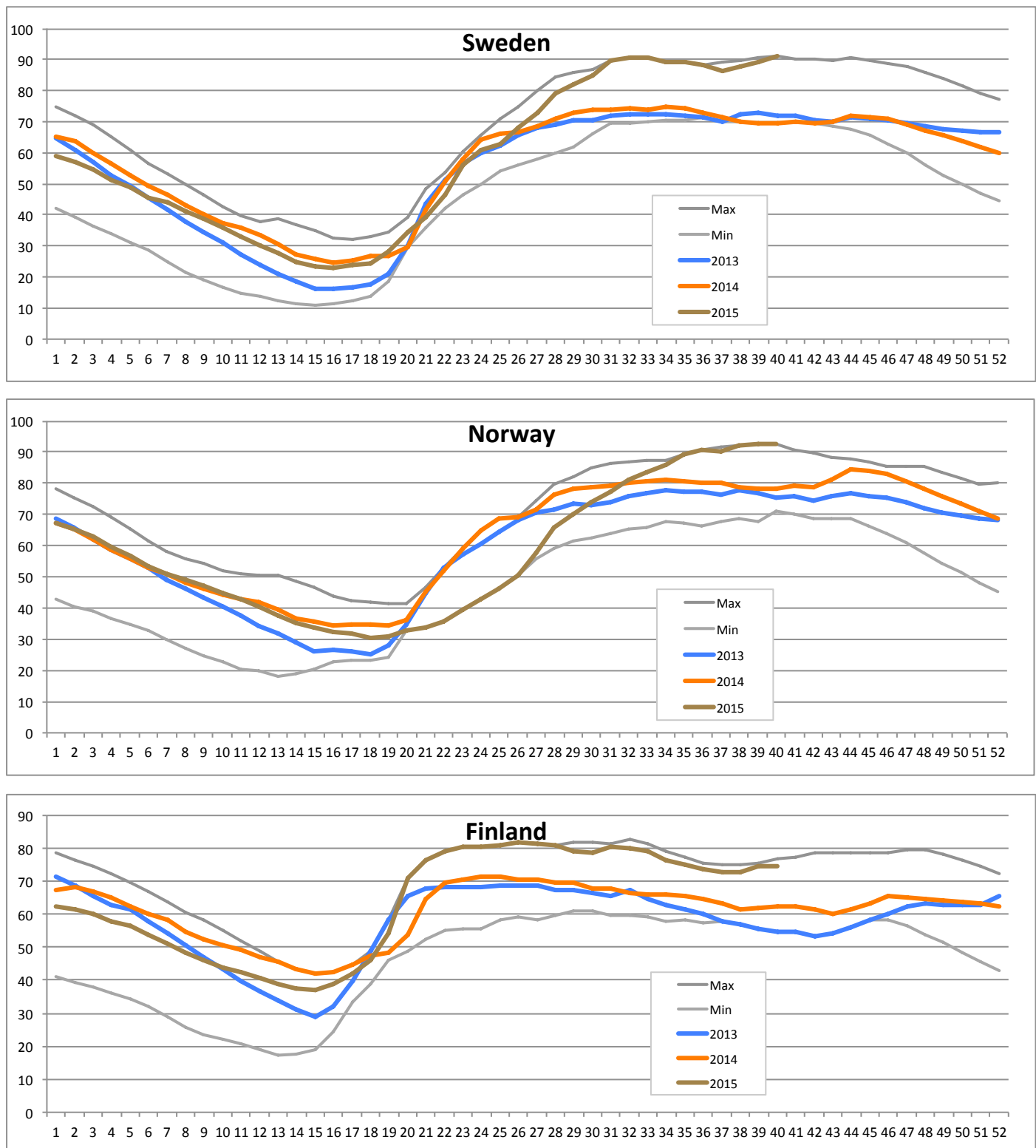
<sup>3</sup> Load data comes from PSE measurement - no other source of this data.

The following diagram shows the percentual load range for the current month compared to the percentual load range of the previous 12 months (Sep. 2014 to Aug. 2015), the reference values being the highest load value of the last 12 months.





## 9. Water reservoirs Nordic



Minimum and maximum limits are based on values for the years 2009-2015.

**Finland:** Reservoir capacity: 5.530 GWh.

**Norway:** Reservoir capacity: 82.224 GWh The statistics are supposed to cover 97.1 percent of the total reservoir capacity. The total reservoir capacity is 84,3 TWh.

**Sweden:** Reservoir capacity: 33.675 GWh

## 10. Appendix: Data sources and references

ENTSO-E data portal: <https://www.entsoe.eu/data/data-portal/>

Nord Pool Spot: <http://www.nordpoolspot.com/>

### Contribution

This publication, based on data collected by the ENTSO-E Statistical Data Correspondents, has been supervised by the following Data Expert Group members:

|                         |                 |                 |               |
|-------------------------|-----------------|-----------------|---------------|
| Anagnostou, Apostolos   | IPTO            | Greece          | Active member |
| Fučík, Zdeněk           | ČEPS            | Czech Republic  | Active member |
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## Contact

ENTSO-E AISBL

Avenue de Cortenbergh 100  
1000 Brussels  
Belgium

Tel +32 2 741 09 50

Fax +32 2 741 09 51

[info@entsoe.eu](mailto:info@entsoe.eu)

[www.entsoe.eu](http://www.entsoe.eu)



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