



# LUZON GRID

## 2021 Weekly Demand, Supply and Operating Margin Profile (as of December 31, 2021)



| 2021                       | JANUARY TO JUNE 2021 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |  |
|----------------------------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--|
|                            | Jan 01               | Jan 08 | Jan 15 | Jan 22 | Jan 29 | Feb 05 | Feb 12 | Feb 19 | Feb 26 | Mar 05 | Mar 12 | Mar 19 | Mar 26 | Apr 02 | Apr 09 | Apr 16 | Apr 23 | Apr 30 | May 07 | May 14 | May 21 | May 28 | Jun 04 | Jun 11 | Jun 18 | Jun 25 |   |  |
|                            | Jan 07               | Jan 14 | Jan 21 | Jan 28 | Feb 04 | Feb 11 | Feb 18 | Feb 25 | Mar 04 | Mar 11 | Mar 18 | Mar 25 | Apr 01 | Apr 08 | Apr 15 | Apr 22 | Apr 29 | May 06 | May 13 | May 20 | May 27 | Jun 03 | Jun 10 | Jun 17 | Jun 24 | Jul 01 |   |  |
| Available Capacity (MW)    | 10,927               | 11,266 | 10,677 | 10,670 | 11,496 | 11,568 | 11,437 | 11,722 | 11,174 | 11,634 | 11,743 | 12,078 | 12,594 | 12,115 | 11,993 | 12,144 | 12,034 | 11,711 | 12,706 | 12,322 | 12,676 | 12,777 | 11,468 | 13,309 | 13,042 | 12,145 |   |  |
| Thermal                    | -                    | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | - |  |
| Coal                       | 3,672                | 3,671  | 4,017  | 4,014  | 4,966  | 4,871  | 5,239  | 5,575  | 4,937  | 4,876  | 5,559  | 5,536  | 5,797  | 5,178  | 5,296  | 5,135  | 5,135  | 5,005  | 6,111  | 5,911  | 6,048  | 6,109  | 5,417  | 6,091  | 5,769  | 5,121  |   |  |
| Gas Turbine/Diesel         | 630                  | 630    | 594    | 594    | 584    | 604    | 627    | 610    | 590    | 590    | 609    | 615    | 610    | 613    | 600    | 588    | 588    | 615    | 621    | 594    | 602    | 602    | 593    | 588    | 588    | 561    |   |  |
| Combined Cycle/NatGas      | 3,289                | 3,671  | 3,019  | 3,017  | 2,960  | 2,960  | 2,969  | 2,747  | 2,949  | 2,949  | 2,952  | 2,942  | 3,005  | 3,174  | 3,245  | 3,468  | 3,468  | 3,383  | 3,387  | 3,387  | 3,333  | 3,334  | 3,280  | 3,810  | 3,767  | 3,461  |   |  |
| Geothermal                 | 407                  | 438    | 469    | 295    | 316    | 403    | 396    | 314    | 378    | 377    | 460    | 437    | 452    | 455    | 456    | 461    | 465    | 463    | 447    | 454    | 447    | 467    | 496    | 464    | 463    | 570    |   |  |
| HVDC                       | 193                  | 125    | 56     | 250    | 118    | 228    | 220    | 146    | 90     | 174    | 75     | 132    | 159    | 140    | 183    | 294    | 274    | 261    | 166    | 88     | 178    | 153    | 187    | -      | -      | 132    |   |  |
| Wind Farm                  | 250                  | 246    | 96     | 230    | 283    | 286    | 33     | 204    | 22     | 120    | 2      | 210    | 200    | 264    | 89     | 60     | 67     | 47     | 23     | 22     | 11     | 8      | 197    | 66     | 146    | 69     |   |  |
| Biomass                    | 97                   | 70     | 85     | 98     | 83     | 79     | 71     | 90     | 84     | 84     | 70     | 87     | 75     | 56     | 56     | 67     | 67     | 82     | 81     | 78     | 70     | 70     | 67     | 91     | 91     | 96     |   |  |
| Solar                      | 228                  | 246    | 183    | 209    | 296    | 204    | 132    | 180    | 157    | 222    | 112    | 186    | 186    | 186    | 194    | 221    | 168    | 299    | 315    | 247    | 228    | 238    | 166    | 230    | 249    | 316    |   |  |
| Hydro                      | 2,151                | 2,159  | 2,148  | 1,953  | 1,880  | 1,923  | 1,740  | 1,846  | 1,962  | 2,132  | 1,894  | 1,923  | 2,100  | 2,039  | 1,864  | 1,840  | 1,792  | 1,546  | 1,545  | 1,531  | 1,749  | 1,786  | 1,055  | 1,959  | 1,959  | 1,809  |   |  |
| BESS                       | 10                   | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     |   |  |
| System Load (MW)           | 9,005                | 8,631  | 9,001  | 9,166  | 8,815  | 9,113  | 9,148  | 9,574  | 10,063 | 9,841  | 10,543 | 10,211 | 10,044 | 9,932  | 10,330 | 10,425 | 10,262 | 10,970 | 11,238 | 11,556 | 11,580 | 11,640 | 11,019 | 11,373 | 11,209 | 11,073 |   |  |
| Operating Margin (MW)      | 1,922                | 2,635  | 1,676  | 1,504  | 2,681  | 2,455  | 2,289  | 2,148  | 1,111  | 1,793  | 1,200  | 1,867  | 2,550  | 2,183  | 1,663  | 1,719  | 1,772  | 741    | 1,468  | 766    | 1,096  | 1,137  | 449    | 1,936  | 1,833  | 1,072  |   |  |
| Req'd Regulating Reserve   | 360                  | 345    | 360    | 367    | 353    | 365    | 366    | 383    | 403    | 394    | 422    | 408    | 402    | 397    | 413    | 417    | 410    | 439    | 450    | 462    | 463    | 466    | 441    | 455    | 448    | 443    |   |  |
| Req'd Contingency Reserve  | 455                  | 460    | 435    | 435    | 647    | 647    | 647    | 637    | 647    | 647    | 647    | 636    | 647    | 647    | 647    | 600    | 600    | 600    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    |   |  |
| Req'd Dispatchable Reserve | 437                  | 435    | 420    | 420    | 460    | 460    | 460    | 462    | 460    | 460    | 460    | 455    | 460    | 460    | 435    | 435    | 435    | 460    | 460    | 647    | 647    | 460    | 647    | 647    | 647    | 647    |   |  |

1. System Peak Demand at 11,640 MW which occurred on May 28, 2021.
2. Preventive Maintenance of Power Plants considered.
3. Embedded Generators considered.
4. Actual Data as of April 15, 2021

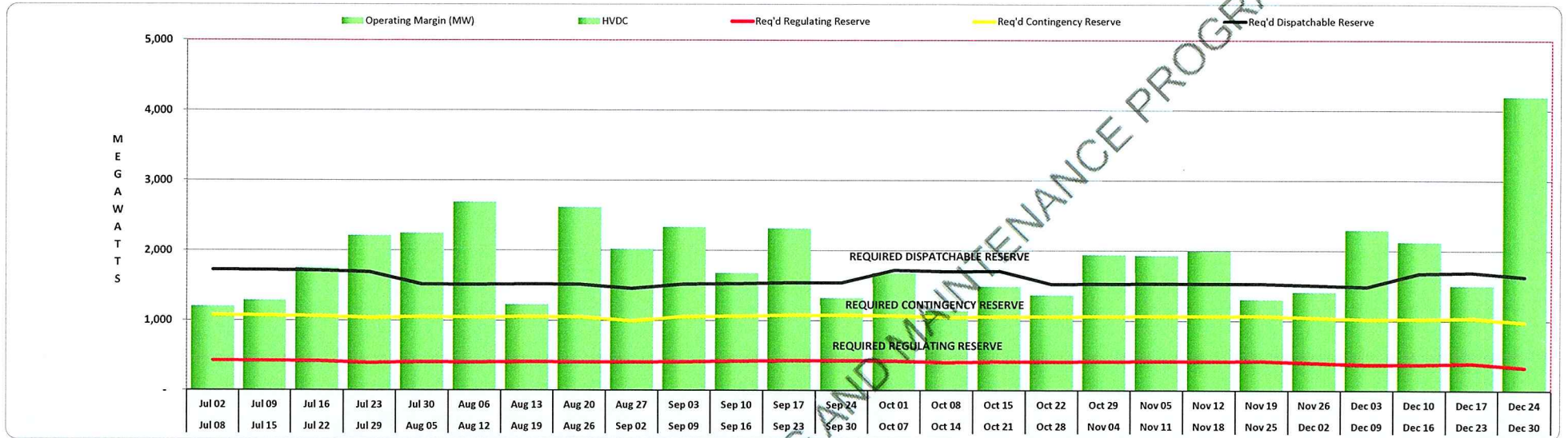
DOE - APPROVED GRID CLEANSING AND MAINTENANCE PROGRAM

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# LUZON GRID

## 2021 Weekly Demand, Supply and Operating Margin Profile (as of December 31, 2021)



| 2021                       | JULY TO DECEMBER 2021 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |     |  |
|----------------------------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----|--|
|                            | Jul 02                | Jul 09 | Jul 16 | Jul 23 | Jul 30 | Aug 06 | Aug 13 | Aug 20 | Aug 27 | Sep 03 | Sep 10 | Sep 17 | Sep 24 | Oct 01 | Oct 08 | Oct 15 | Oct 22 | Oct 29 | Nov 05 | Nov 12 | Nov 19 | Nov 26 | Dec 03 | Dec 10 | Dec 17 | Dec 24 |     |  |
|                            | Jul 08                | Jul 15 | Jul 22 | Jul 29 | Aug 05 | Aug 12 | Aug 19 | Aug 26 | Sep 02 | Sep 09 | Sep 16 | Sep 23 | Sep 30 | Oct 07 | Oct 14 | Oct 21 | Oct 28 | Nov 04 | Nov 11 | Nov 18 | Nov 25 | Dec 02 | Dec 09 | Dec 16 | Dec 23 | Dec 30 |     |  |
| Available Capacity (MW)    | 11,967                | 11,899 | 12,224 | 12,088 | 12,431 | 12,755 | 11,498 | 12,765 | 12,182 | 12,610 | 12,156 | 13,067 | 12,136 | 12,285 | 11,224 | 11,842 | 11,714 | 12,366 | 12,463 | 12,487 | 11,881 | 11,421 | 11,737 | 11,650 | 11,356 | 12,554 |     |  |
| Thermal                    | -                     | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | 68     | -   |  |
| Coal                       | 5,241                 | 5,165  | 6,092  | 5,813  | 5,562  | 5,194  | 4,618  | 5,655  | 5,050  | 5,573  | 5,349  | 6,250  | 5,639  | 6,070  | 5,345  | 6,095  | 5,803  | 6,098  | 6,000  | 6,050  | 5,458  | 4,651  | 5,095  | 4,861  | 4,618  | 5,597  |     |  |
| Gas Turbine/Diesel         | 561                   | 583    | 573    | 570    | 566    | 573    | 583    | 583    | 589    | 573    | 567    | 580    | 543    | 432    | 649    | 623    | 693    | 688    | 664    | 656    | 663    | 673    | 661    | 680    | 680    | 669    |     |  |
| Combined Cycle/NatGas      | 3,145                 | 3,126  | 2,845  | 3,126  | 3,151  | 3,696  | 2,761  | 3,406  | 3,371  | 3,103  | 2,956  | 3,152  | 3,011  | 2,834  | 1,801  | 1,827  | 1,836  | 2,430  | 2,703  | 2,874  | 2,839  | 2,879  | 2,877  | 2,682  | 3,106  | 3,107  |     |  |
| Geothermal                 | 642                   | 638    | 620    | 461    | 468    | 651    | 721    | 461    | 542    | 634    | 545    | 403    | 329    | 501    | 711    | 418    | 560    | 351    | 459    | 461    | 568    | 535    | 523    | 505    | 449    | 441    |     |  |
| HVDC                       | 176                   | 212    | 102    | -      | -      | -      | 188    | 54     | 91     | 195    | 140    | -      | 119    | -      | 239    | -      | 107    | 157    | -      | 62     | 174    | 203    | 97     | 149    | -      | -      |     |  |
| Wind Farm                  | 28                    | 124    | 6      | 247    | 274    | 54     | 6      | 23     | 11     | 5      | 44     | 128    | 62     | 23     | -      | 190    | 183    | 212    | 240    | 220    | 79     | 293    | 277    | 284    | 9      | 301    |     |  |
| Biomass                    | 96                    | 97     | 95     | 97     | 84     | 87     | 75     | 76     | 87     | 76     | 64     | 83     | 96     | 96     | 89     | 78     | 79     | 88     | 96     | 88     | 89     | 93     | 89     | 98     | 88     | 100    |     |  |
| Solar                      | 217                   | 240    | 268    | 201    | 224    | 337    | 314    | 289    | 210    | 269    | 289    | 327    | 318    | 285    | 207    | 391    | 264    | 407    | 373    | 238    | 184    | 204    | 250    | 285    | 263    | 195    |     |  |
| Hydro                      | 1,851                 | 1,704  | 1,613  | 1,563  | 2,092  | 2,153  | 2,212  | 2,198  | 2,212  | 2,172  | 2,182  | 2,124  | 1,999  | 2,024  | 2,163  | 2,193  | 2,239  | 1,910  | 1,884  | 1,810  | 1,814  | 1,880  | 1,836  | 2,105  | 2,055  | 2,124  |     |  |
| BESS                       | 10                    | 10     | 10     | 10     | 10     | 10     | 20     | 20     | 20     | 10     | 20     | 20     | 20     | 20     | 20     | 20     | 20     | 20     | 20     | 20     | 20     | 20     | 20     | 20     | 20     | 20     |     |  |
| System Load (MW)           | 10,763                | 10,613 | 10,474 | 9,870  | 10,182 | 10,064 | 10,270 | 10,148 | 10,162 | 10,274 | 10,477 | 10,752 | 10,811 | 10,606 | 10,080 | 10,349 | 10,346 | 10,426 | 10,533 | 10,493 | 10,572 | 10,009 | 9,438  | 9,521  | 9,850  | 8,356  |     |  |
| Operating Margin (MW)      | 1,204                 | 1,286  | 1,750  | 2,218  | 2,249  | 2,691  | 1,228  | 2,617  | 2,020  | 2,336  | 1,679  | 2,315  | 1,325  | 1,679  | 1,144  | 1,493  | 1,368  | 1,940  | 1,930  | 1,994  | 1,309  | 1,412  | 2,299  | 2,129  | 1,506  | 4,198  |     |  |
| Req'd Regulating Reserve   | 431                   | 425    | 419    | 395    | 407    | 403    | 411    | 406    | 406    | 411    | 419    | 430    | 432    | 424    | 403    | 414    | 414    | 417    | 421    | 420    | 423    | 400    | 378    | 381    | 394    | 334    |     |  |
| Req'd Contingency Reserve  | 647                   | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 590    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647    | 647 |  |
| Req'd Dispatchable Reserve | 647                   | 647    | 647    | 647    | 460    | 460    | 460    | 460    | 460    | 460    | 460    | 460    | 460    | 460    | 647    | 647    | 647    | 460    | 460    | 460    | 460    | 460    | 460    | 460    | 460    | 460    | 460 |  |

- System Peak Demand at 11,640 MW which occurred on May 28, 2021.
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DOE-APPROVED GRID OPERATING AND MAINTENANCE PROGRAM

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