The Parameters of SG units are listed in Table A1. The forecast of RES generation and load are listed in Table A2. The parameters of IMs in this paper are listed in Table A3.

Table A1 Parameters of SG units

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 |
| /MW | 200 | 200 | 250 | 250 | 250 | 300 | 300 | 350 | 350 | 350 |
| /MW | 40 | 40 | 50 | 50 | 50 | 60 | 60 | 70 | 70 | 70 |
| /$ | 700 | 600 | 900 | 850 | 800 | 1500 | 1400 | 1700 | 1650 | 1600 |
| /h | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 |
| /h | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 |
| *Ui*/(MW·min-1) | 10 | 10.2 | 9.5 | 9.6 | 9.7 | 9.2 | 9 | 8.5 | 8.7 | 8.9 |
| *Di*/(MW·min-1) | 10 | 10.2 | 9.5 | 9.6 | 9.7 | 9.2 | 9 | 8.5 | 8.7 | 8.9 |
| /($·MW-1·h-1) | 54.82 | 55.95 | 43.68 | 43.08 | 44.51 | 37.12 | 37.36 | 32.44 | 32.29 | 32.14 |
| /($·MW-1·h-1) | 105.18 | 103.96 | 116.02 | 117.41 | 115.44 | 122.62 | 122.27 | 127.85 | 127.62 | 127.42 |
| /($·MW-1·h-1) | 16.64 | 16.03 | 20.81 | 20.88 | 20.01 | 24.79 | 24.16 | 28.95 | 28.46 | 27.77 |
| /($·MW-1·h-1) | 14.24 | 14.50 | 17.09 | 16.72 | 18.12 | 20.32 | 21.03 | 25.35 | 24.98 | 24.17 |
| *μG* | 0.043 | 0.043 | 0.045 | 0.045 | 0.045 | 0.048 | 0.048 | 0.05 | 0.05 | 0.05 |
| *TR* | 12.00 | 11.75 | 14.33 | 14.21 | 14.09 | 16.48 | 16.33 | 18.80 | 18.62 | 18.48 |
| *FHP* | 0.205 | 0.200 | 0.351 | 0.346 | 0.340 | 0.428 | 0.422 | 0.485 | 0.482 | 0.480 |
| *Hsg*/s | 4.3 | 4.3 | 4.5 | 4.5 | 4.5 | 4.8 | 4.8 | 5 | 5 | 5 |

Table A2 Forecast of load and RES generation

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t/h | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| W1/MW | 83.2 | 113.2 | 120.1 | 129.4 | 133.2 | 145.5 | 135.5 | 155.6 | 207.1 | 224.0 | 254.1 | 269.5 |
| W2/MW | 62.4 | 84.9 | 90.1 | 97.0 | 99.9 | 109.1 | 101.6 | 116.6 | 155.3 | 168.1 | 190.5 | 202.2 |
| W3/MW | 62.4 | 84.9 | 90.1 | 97.0 | 99.9 | 109.1 | 101.6 | 116.6 | 155.3 | 168.1 | 190.5 | 202.2 |
| PV/MW | 0 | 0 | 0 | 0 | 0 | 5 | 172.5 | 300 | 450 | 505 | 545 | 540 |
| Load/GW | 1.3515 | 1.2920 | 1.2240 | 1.1135 | 1.1050 | 1.1815 | 1.4025 | 1.7765 | 2.3120 | 2.5670 | 2.5500 | 2.4225 |
| t/h | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| W1/MW | 261.8 | 281.8 | 247.2 | 215.6 | 231.8 | 247.2 | 300.3 | 269.5 | 231.0 | 178.6 | 144.8 | 135.5 |
| W2/MW | 196.2 | 211.4 | 185.4 | 161.7 | 173.8 | 185.3 | 225.3 | 202.2 | 173.3 | 134.0 | 108.6 | 101.6 |
| W3/MW | 196.2 | 211.4 | 185.4 | 161.7 | 173.8 | 185.3 | 225.3 | 202.2 | 173.3 | 134.0 | 108.6 | 101.6 |
| PV/MW | 525 | 480 | 410 | 245 | 25 | 17.5 | 2.5 | 0 | 0 | 0 | 0 | 0 |
| Load/GW | 2.3120 | 2.2780 | 2.2100 | 2.1590 | 2.3375 | 2.4650 | 2.7795 | 2.8050 | 2.5160 | 2.2525 | 1.8615 | 1.5555 |

Table A3 Parameters of IMs

|  |  |  |  |
| --- | --- | --- | --- |
| Parameters | Values | Parameters | Values |
| Slip of IMs | 0.05 | *Him*/s | 5.0 |
| *U*0/p.u. | 1.0 | *Xs*/p.u. | 0.11 |
| *Xr*/p.u. | 0.12 | *Rs*/p.u. | 0.012 |
| *Xm*/p.u. | 3.0 | *λ* | 0.6 |
| *Ke* | 0.8 |  |  |