

## Scenario — PV

Old house to improve Austria - Inning 48.182, 15.417

| Name                    | Slope ° | Azimuth ° | Wp    | Wall d/h m | Face   | Bifacial | Wp counted |
|-------------------------|---------|-----------|-------|------------|--------|----------|------------|
| Garage roof             | 1       | 0         | 10740 | —          | front  | —        | yes        |
| Garage side wall south  | 90      | 0         | 3475  | 5 / 4      | front  | —        | yes        |
| Garage side wall north  | 90      | 180       | 3475  | 5 / 4      | front  | —        | yes        |
| Garage door side        | 90      | 90        | 700   | 5 / 4      | front  | —        | yes        |
| Garage back side        | 90      | -90       | 2540  | 5 / 4      | front  | —        | yes        |
| Garden fence east       | 90      | -90       | 6000  | 5 / 4      | face 1 | —        | yes        |
| Garden fence east face2 | 90      | 90        | 4800  | 5 / 4      | face 2 | 80 %     | no         |
| Roof south              | 22      | 0         | 3000  | —          | front  | —        | yes        |
| Roof east               | 22      | -90       | 3000  | —          | front  | —        | yes        |
| Roof west               | 22      | 90        | 3000  | —          | front  | —        | yes        |
| Total counted           |         |           | 35930 |            |        |          |            |

Location: My most visited location in “lower Austria”, just at the Tesla SuC.

Database PVGIS-SARAH3 2005–2023 loss 14 % azimuth 0 = south, 90 = west, -90 = east.

Price bands and charts use UTC+1 from longitude (15° per hour), not the political time zone.

Peak hour 2016-05-17 10:10 local (09:10 UTC) 19628 W 0.546 W/Wp of 35930 Wp.

Database gaps: 10 days with 0 yield while the sun reached the horizon at noon. 2008-01-23, 2008-03-01, 2008-03-06, 2008-05-17, 2008-05-18, 2009-04-18, 2009-04-19, 2009-08-15, 2009-08-16, 2016-10-16. Yield charts skip them. The simulation uses the lowest-yield day of that month.

Sell when the export price is above 0. At 0 cent export PV yield only, not the battery. Do not sell when the earning is negative. At 15:00 winter time, battery export is only the kWh that would not fit in the next 72 h.



Scenario — house, heat pump, battery  
 Old house to improve Austria - Inning 48.182, 15.417

| Chapter   | Parameter                        | Value                                     |
|-----------|----------------------------------|-------------------------------------------|
| Building  | Design out / in / heat           | -10.0 °C / 20.0 °C / 3300.0 W             |
|           | Heat on / cool on / ground       | 20.0 °C / 25.0 °C / 10.0 °C               |
|           | Curve / flow min / max           | 0.35 / 25.0 °C / 55.0 °C                  |
|           | Thermal mass of the house        | 25.0 kWh/K                                |
|           | Household only                   | 4.0 kWh/day                               |
| DHW       | Litres at 40 °C / tank           | 200.0 L tank 62.0 °C 8-18 h               |
|           | Water out of the pipe Q1-Q4      | 8 °C 10 °C 12 °C 10 °C                    |
| Heat pump | Source                           | air and ground                            |
|           | COP –10/0/10 @ 35 °C             | 2.4 3.4 4.5                               |
|           | COP –10/0/10 @ 50 °C             | 1.9 2.6 3.3                               |
|           | kW –10/0/10 @ 35 °C              | 4 5 6                                     |
|           | kW –10/0/10 @ 50 °C              | 3.5 4.5 5                                 |
| Battery   | kWh / C-rate / SOC min-max-start | 60.0 kWh C 0.5 5 / 95 / 50 %              |
|           | Nameplate                        | —                                         |
|           | Charge / discharge $\eta$        | 95 % / 90 %                               |
| Grid      | Inverter / grid connection       | 12.0 kW / 12.0 kW                         |
|           | Max export                       | 12.0 kW                                   |
|           | Import cap Jan-Jun kW            | Jan 3 Feb 3 Mar 2 Apr 2 May 2 Jun 2       |
|           | Import cap Jul-Dec kW            | Jul 2 Aug 2 Sep 2 Oct 2 Nov 3 Dec 3       |
| Cars      | Lunch DC / night AC              | 0.0 kWh @ 30.0 kW night 10.0 kWh @ 4.0 kW |

Records 1-10 — contribution of each PV  
Austria - Inning 48.182, 15.417

| PV                        | 2016-05-17<br>09:10 | 2012-05-18<br>09:10 | 2013-05-13<br>09:10 | 2006-05-25<br>09:10 | 2020-05-07<br>09:10 | 2009-06-13<br>09:10 | 2017-04-30<br>09:10 | 2021-05-26<br>09:10 | 2019-05-01<br>09:10 | 2012-04-25<br>09:10 |
|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Garage roof               | 7574                | 7617                | 7581                | 7713                | 7489                | 7701                | 7365                | 7689                | 7362                | 7242                |
| Garage side wall south    | 1520                | 1509                | 1561                | 1424                | 1625                | 1299                | 1723                | 1409                | 1696                | 1785                |
| Garage side wall north    | 202                 | 178                 | 171                 | 137                 | 155                 | 175                 | 141                 | 111                 | 143                 | 153                 |
| Garage door side          | 41                  | 36                  | 34                  | 28                  | 31                  | 35                  | 28                  | 22                  | 29                  | 31                  |
| Garage back side          | 1115                | 1114                | 1118                | 1098                | 1124                | 1102                | 1146                | 1094                | 1133                | 1158                |
| Garden fence east         | 2634                | 2632                | 2642                | 2595                | 2654                | 2604                | 2708                | 2585                | 2678                | 2734                |
| Garden fence east face2   | 279                 | 245                 | 236                 | 190                 | 214                 | 242                 | 195                 | 154                 | 198                 | 211                 |
| Roof south                | 2321                | 2331                | 2341                | 2343                | 2341                | 2304                | 2330                | 2329                | 2330                | 2321                |
| Roof east                 | 2323                | 2335                | 2333                | 2363                | 2318                | 2357                | 2290                | 2351                | 2291                | 2267                |
| Roof west                 | 1621                | 1626                | 1604                | 1643                | 1563                | 1654                | 1519                | 1640                | 1516                | 1474                |
| Watt at record            | 19628               | 19623               | 19622               | 19534               | 19515               | 19473               | 19446               | 19385               | 19375               | 19375               |
| Percent of installed peak | 54.6                | 54.6                | 54.6                | 54.4                | 54.3                | 54.2                | 54.1                | 54.0                | 53.9                | 53.9                |

Hours at or above a share of the record  
Austria - Inning 48.182, 15.417

| Of the record | Hours | Watts   |
|---------------|-------|---------|
| 98 %          | 19    | 19235 W |
| 96 %          | 76    | 18843 W |
| 94 %          | 249   | 18450 W |
| 92 %          | 626   | 18058 W |
| 90 %          | 1265  | 17665 W |

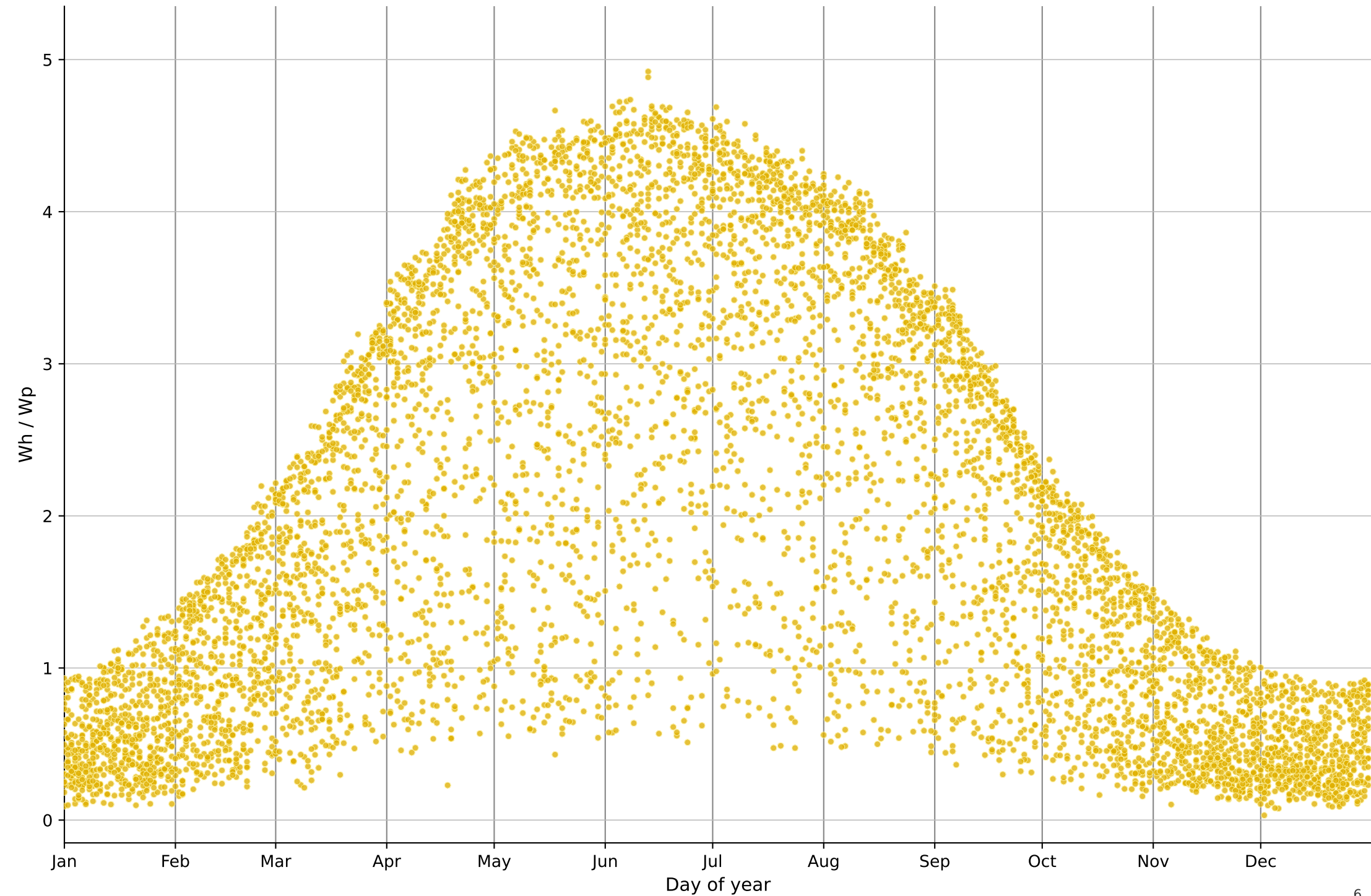
## Records of each photovoltaic field

### Austria - Inning 48.182, 15.417

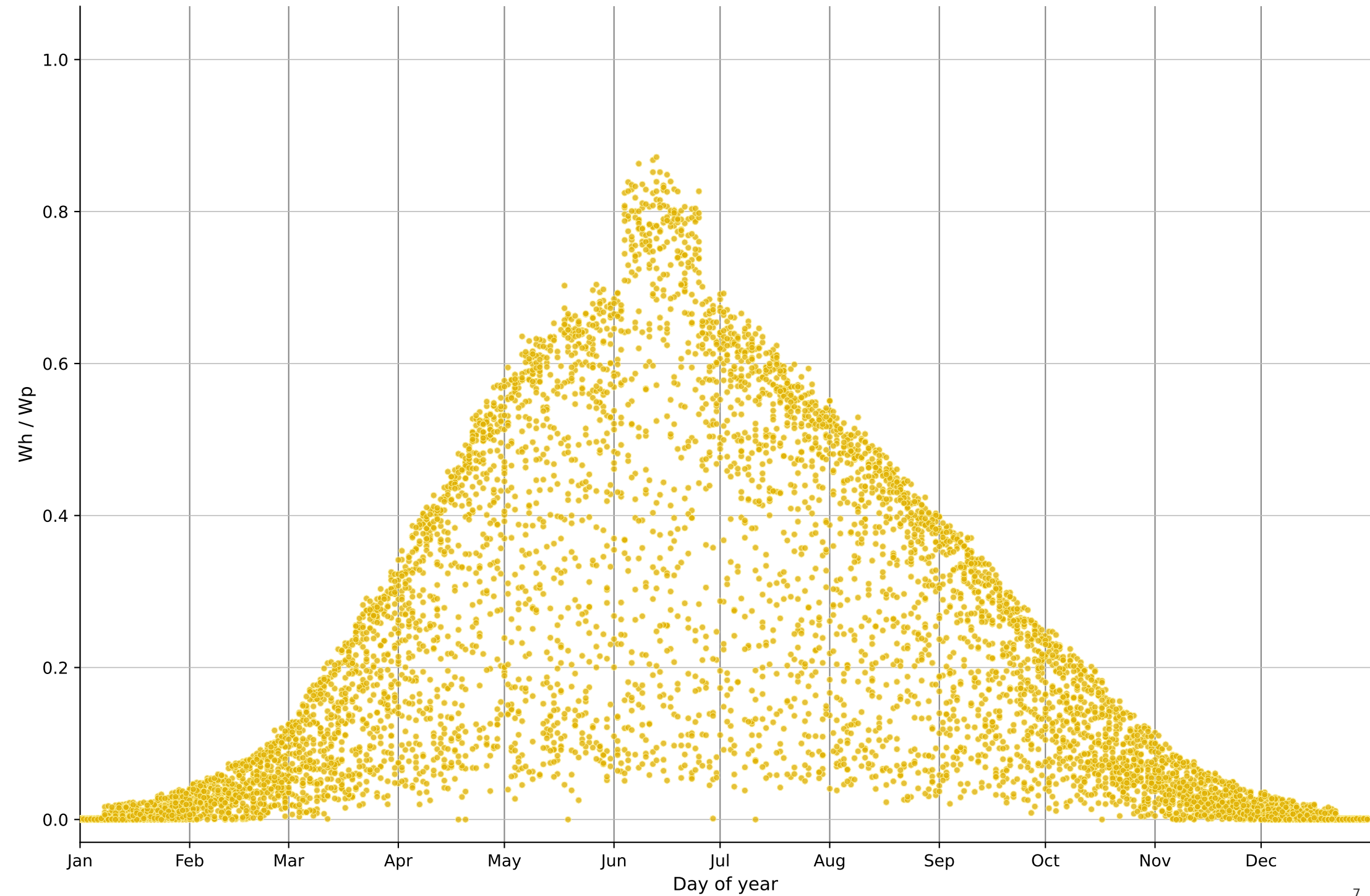
| PV                     | Date             | Watts | %    | h ≥98% | h ≥96% | h ≥94% | h ≥92% | h ≥90% |
|------------------------|------------------|-------|------|--------|--------|--------|--------|--------|
| Garage roof            | 2009-06-13 11:10 | 8369  | 77.9 | 8      | 33     | 112    | 320    | 671    |
| Garage side wall south | 2009-03-22 11:10 | 2638  | 75.9 | 8      | 17     | 26     | 45     | 75     |
| Garage side wall north | 2023-06-13 05:10 | 611   | 17.6 | 1      | 8      | 25     | 50     | 108    |
| Garage door side       | 2005-05-08 14:10 | 473   | 67.6 | 1      | 3      | 5      | 16     | 49     |
| Garage back side       | 2009-06-13 07:10 | 1695  | 66.7 | 3      | 8      | 16     | 44     | 84     |
| Garden fence east      | 2009-06-13 07:10 | 4197  | 70.0 | 3      | 10     | 18     | 47     | 102    |
| Roof south             | 2005-04-22 11:10 | 2645  | 88.2 | 2      | 11     | 52     | 161    | 376    |
| Roof east              | 2006-05-25 09:10 | 2363  | 78.8 | 11     | 38     | 156    | 391    | 806    |
| Roof west              | 2016-05-15 12:10 | 2411  | 80.4 | 3      | 12     | 30     | 118    | 333    |

Watts is the highest hour of that field. % is of its own Wp. Hours are the count of hours at or above that share of its own record. Use this to size the MPPT or the inverter for that field.

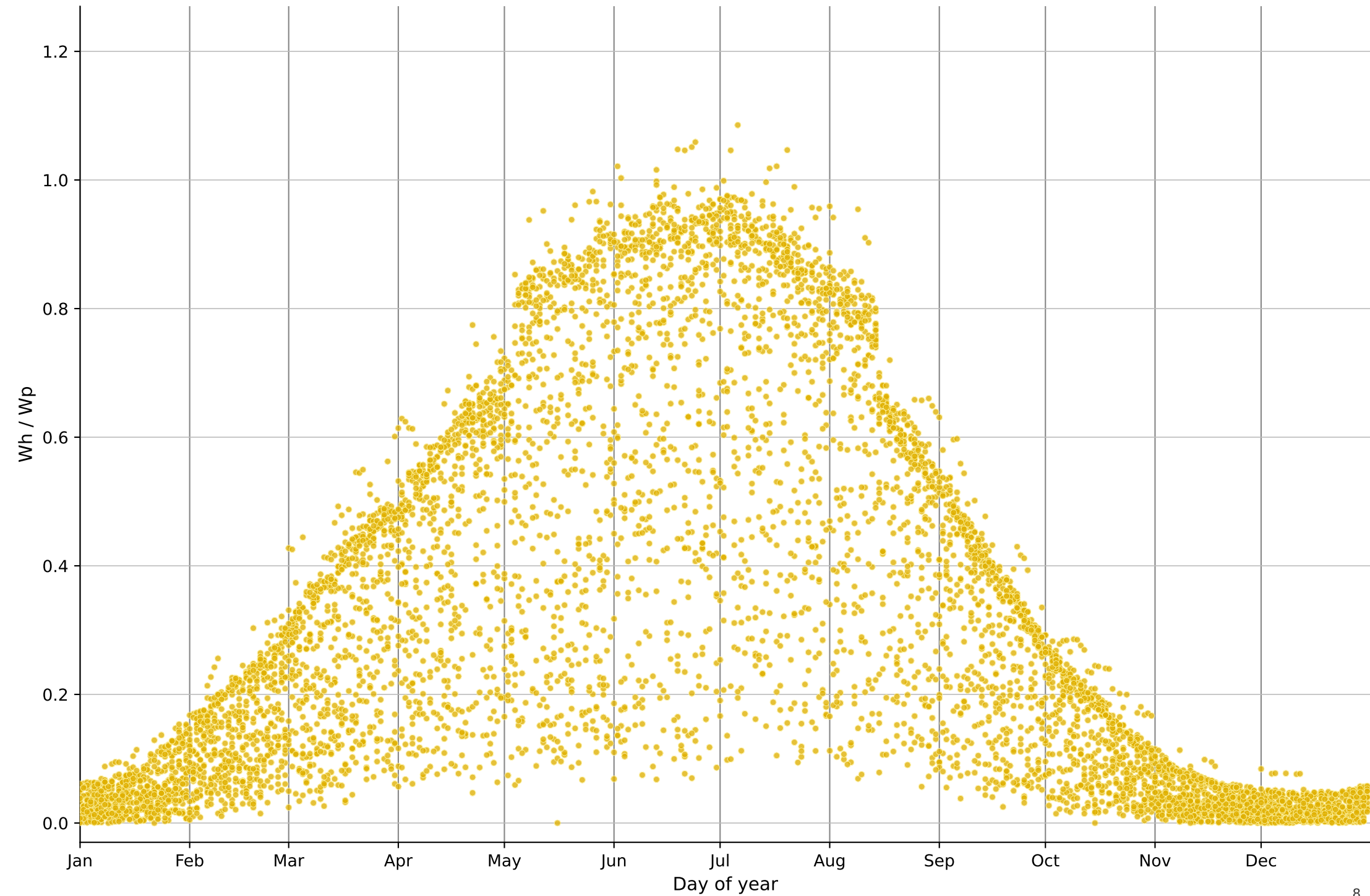
Yield distribution for each day —  $W_h / W_p$  of all PV together  
Austria - Inning 48.182, 15.417



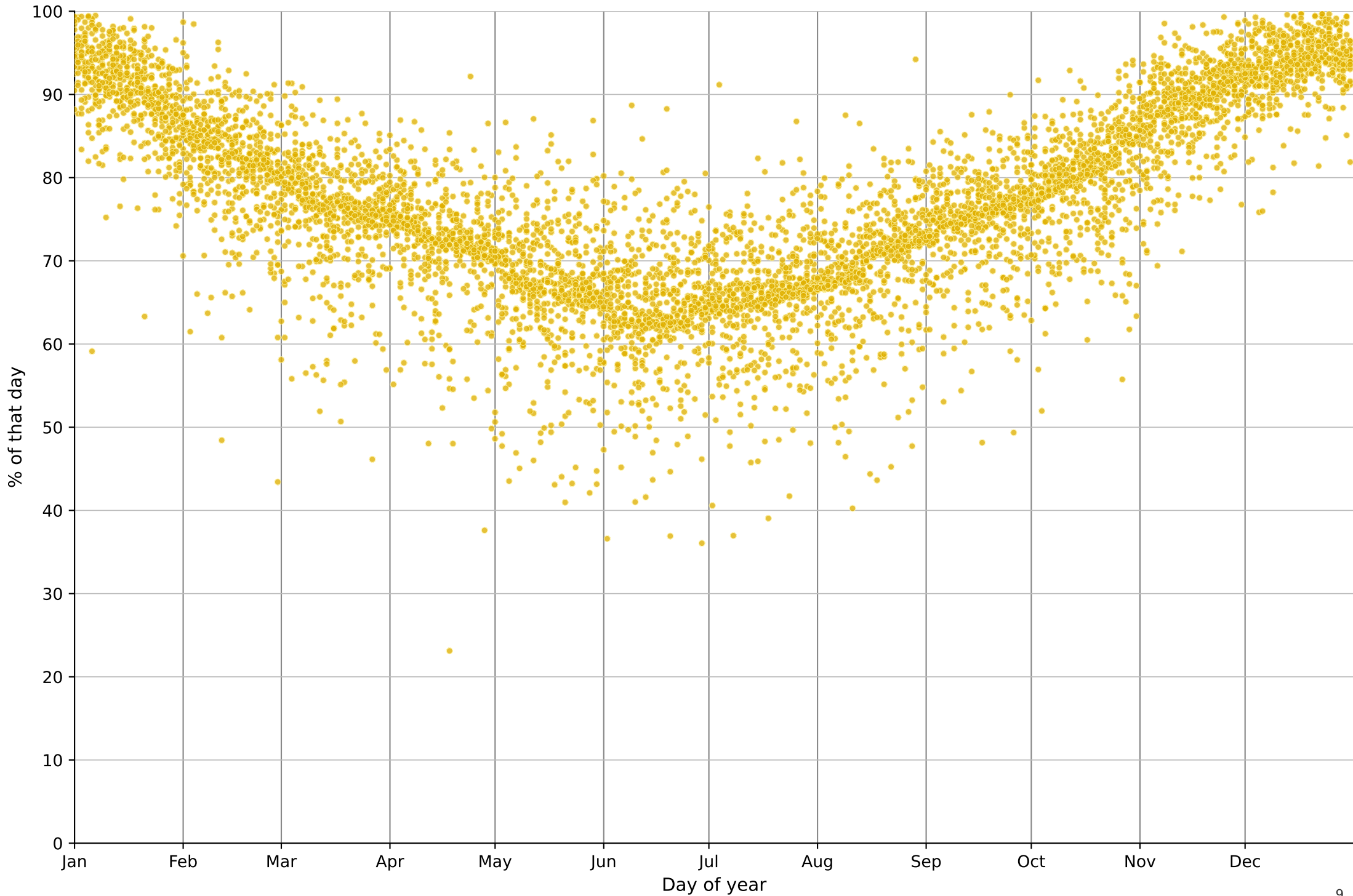
Yield distribution for each day — Wh / Wp of all PV together — 00:00-09:00  
Austria - Inning 48.182, 15.417



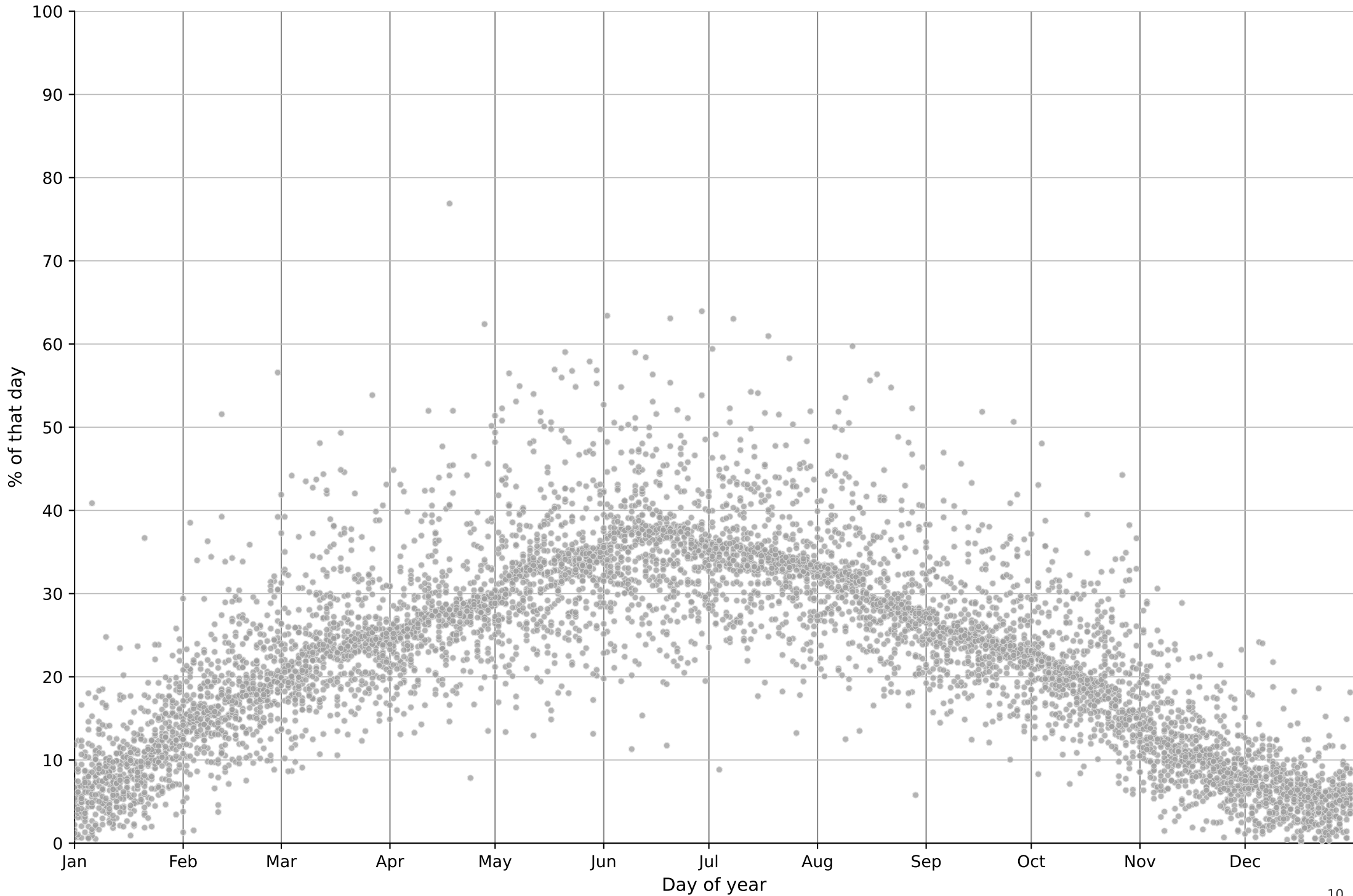
Yield distribution for each day — Wh / Wp of all PV together — 15:00-23:59  
Austria - Inning 48.182, 15.417



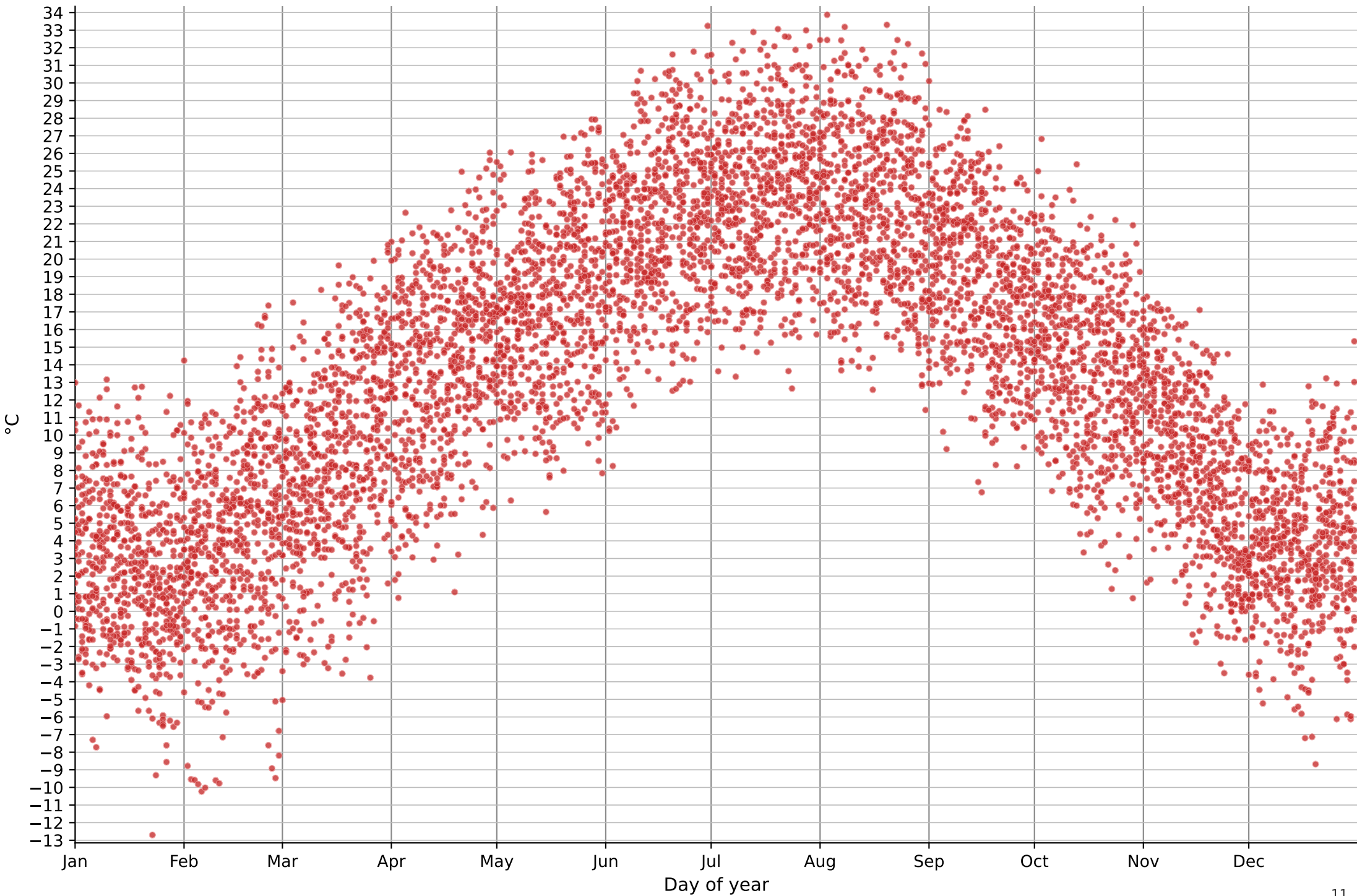
Share of the day's yield in 09:00-15:00 winter time  
Austria - Inning 48.182, 15.417



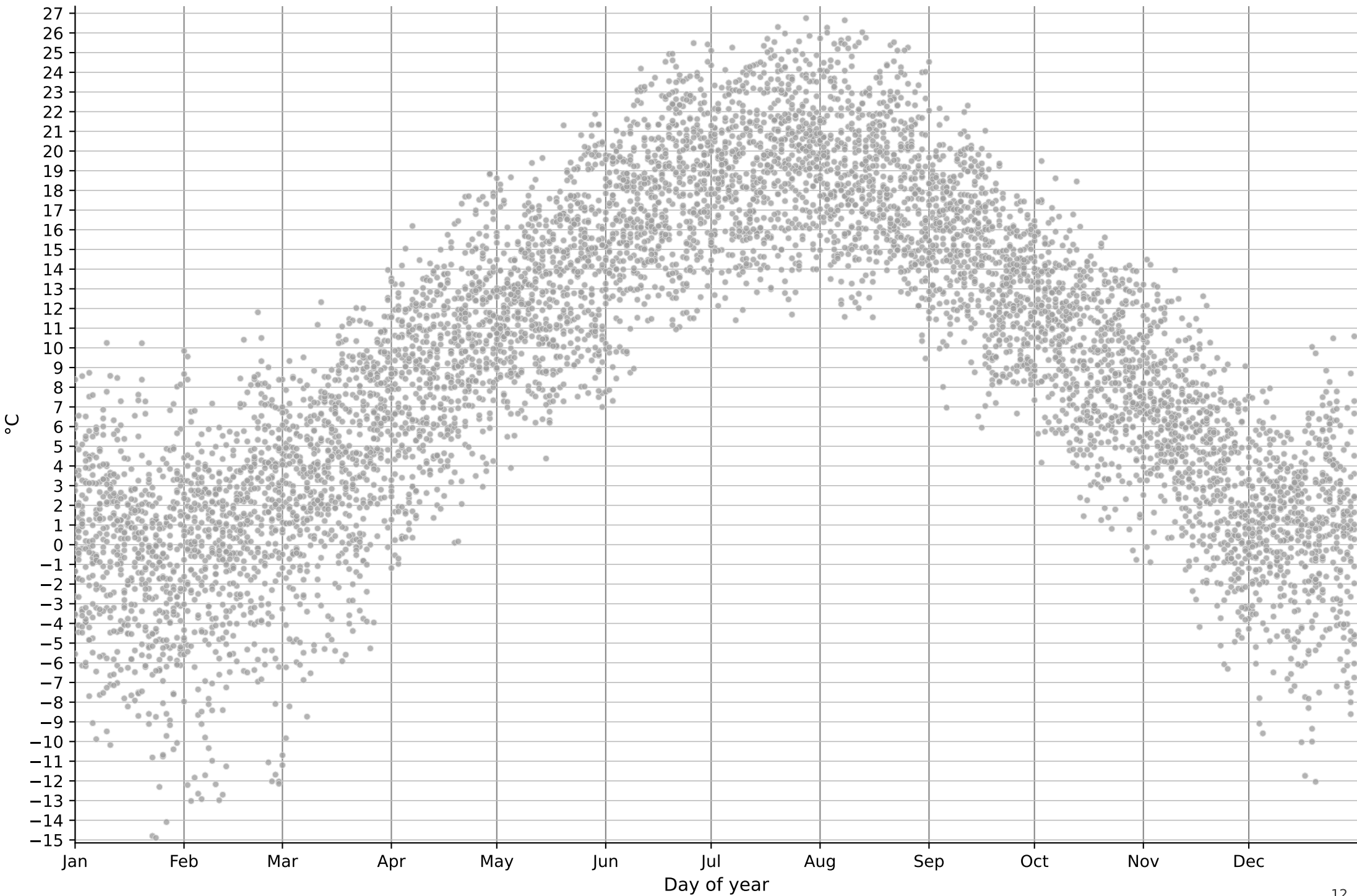
Share of the day's yield outside 09:00-15:00 winter time  
Austria - Inning 48.182, 15.417



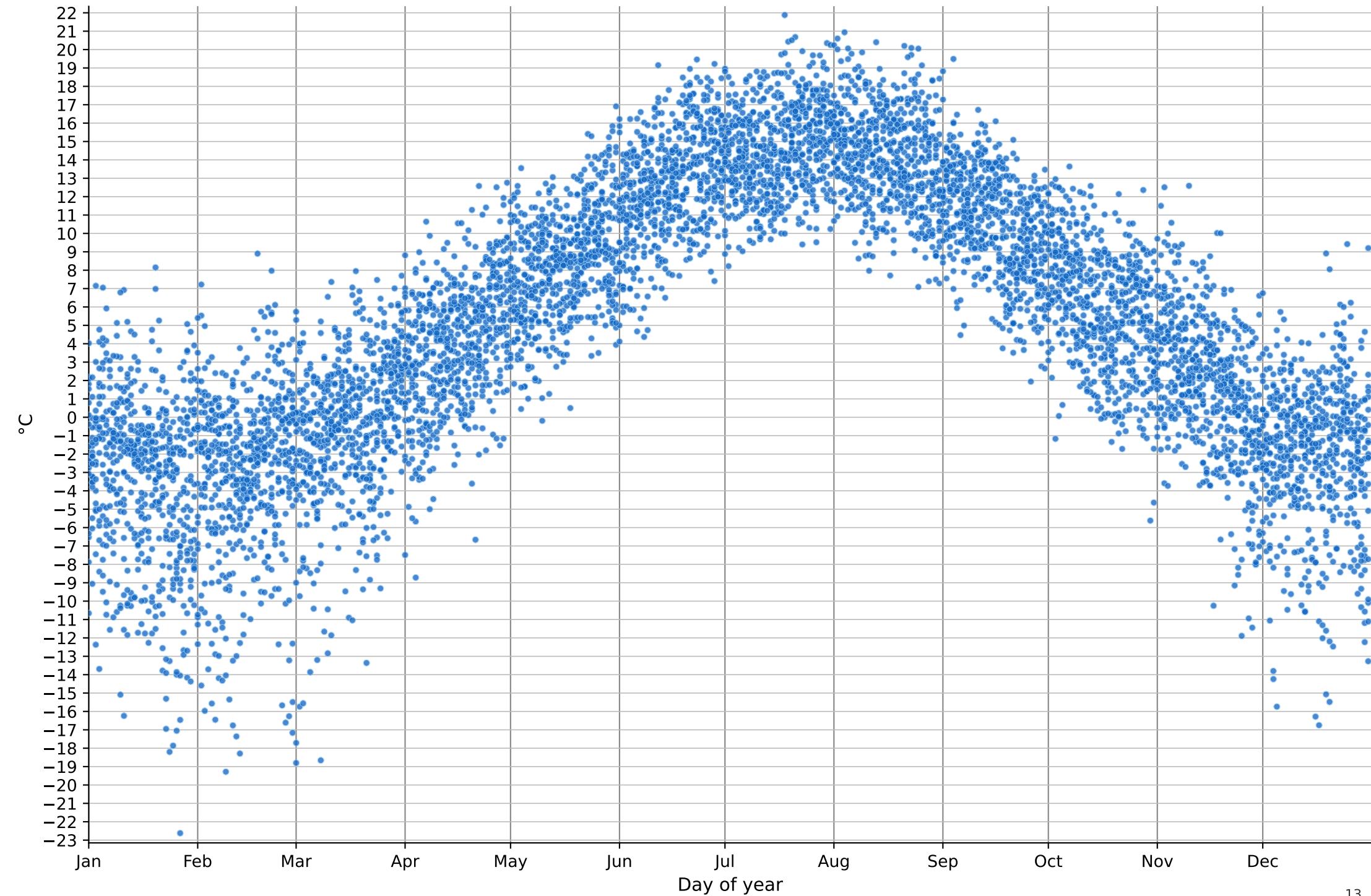
Highest temperature of each day  
Austria - Inning 48.182, 15.417



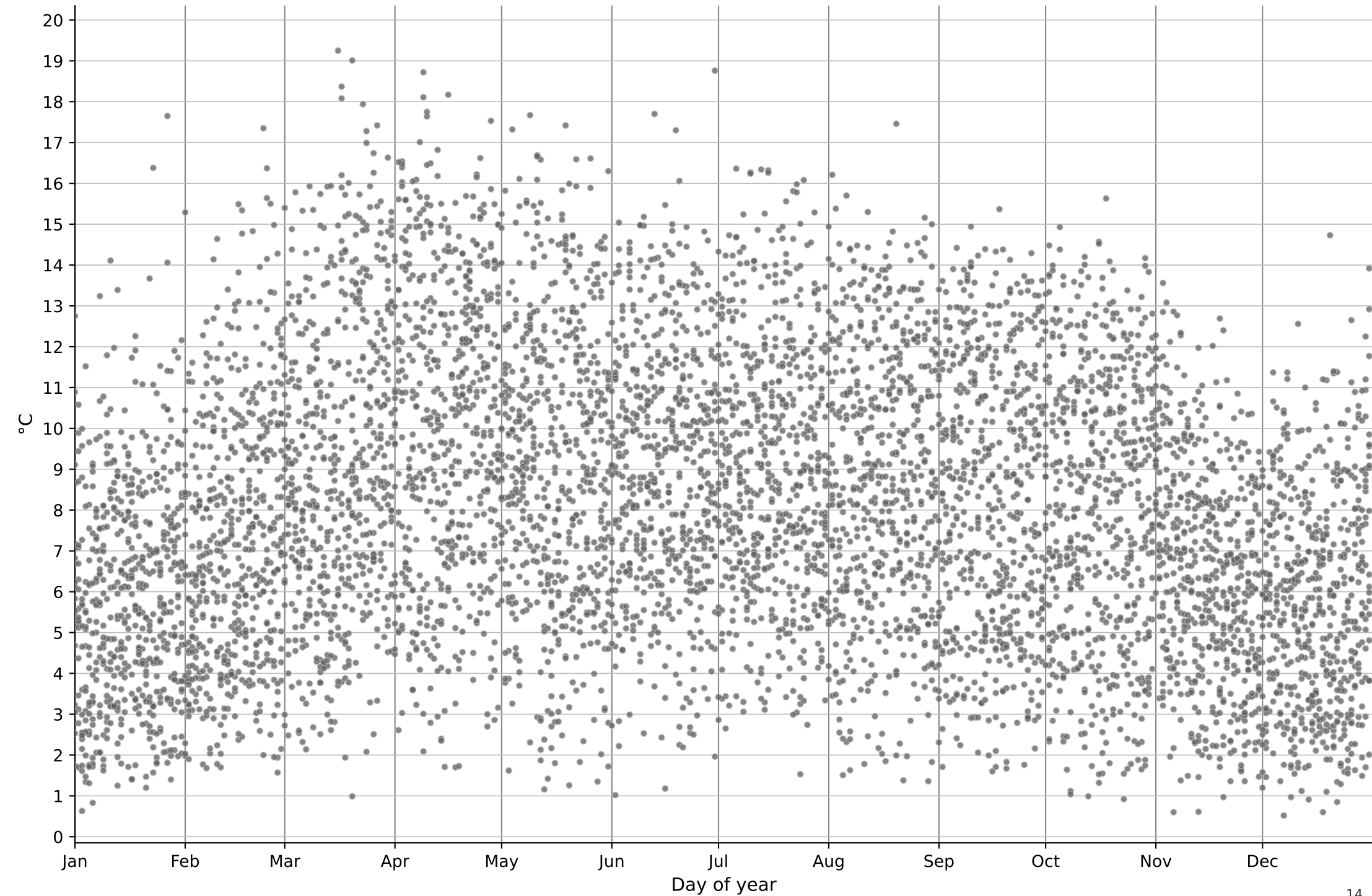
Average temperature of each day  
Austria - Inning 48.182, 15.417



Lowest temperature of each day  
Austria - Inning 48.182, 15.417



Difference between highest and lowest temperature of each day  
Austria - Inning 48.182, 15.417



Monthly and yearly specific yield (kWh/kWp = Wh/Wp)  
Austria - Inning 48.182, 15.417

| Month / year |         | Garage roof<br>1°/0°<br>10740 Wp | Garage side wall south<br>90°/0°<br>3475 Wp | Garage side wall north<br>90°/90°<br>3475 Wp | Garage door side<br>90°/90°<br>700 Wp | Garage back side<br>90°/-90°<br>2540 Wp | Garden fence east<br>90°/-90° + 90°/90°<br>6000 Wp bifacial ×80% | All<br>together |
|--------------|---------|----------------------------------|---------------------------------------------|----------------------------------------------|---------------------------------------|-----------------------------------------|------------------------------------------------------------------|-----------------|
| January      | Maximum | 32.84                            | 7.26                                        | 7.26                                         | 8.02                                  | 9.10                                    | 15.51                                                            | 24.19           |
|              | average | 23.62                            | 5.26                                        | 5.26                                         | 5.93                                  | 6.73                                    | 11.47                                                            | 17.59           |
|              | minimum | 17.95                            | 4.09                                        | 4.09                                         | 4.60                                  | 5.29                                    | 8.97                                                             | 13.49           |
| February     | Maximum | 51.56                            | 9.78                                        | 9.78                                         | 11.74                                 | 11.07                                   | 20.46                                                            | 35.52           |
|              | average | 41.81                            | 8.23                                        | 8.23                                         | 10.69                                 | 9.69                                    | 18.25                                                            | 29.70           |
|              | minimum | 30.53                            | 7.01                                        | 7.01                                         | 9.55                                  | 8.85                                    | 16.58                                                            | 22.93           |
| March        | Maximum | 103.67                           | 40.02                                       | 16.17                                        | 20.69                                 | 20.57                                   | 37.09                                                            | 71.15           |
|              | average | 78.18                            | 32.13                                       | 14.12                                        | 18.52                                 | 18.64                                   | 33.45                                                            | 55.71           |
|              | minimum | 60.95                            | 23.96                                       | 12.21                                        | 16.23                                 | 16.11                                   | 29.09                                                            | 44.92           |
| April        | Maximum | 138.59                           | 85.87                                       | 20.80                                        | 35.62                                 | 37.00                                   | 65.39                                                            | 100.86          |
|              | average | 110.61                           | 68.54                                       | 18.98                                        | 32.57                                 | 33.18                                   | 59.23                                                            | 82.33           |
|              | minimum | 87.14                            | 54.04                                       | 16.79                                        | 27.32                                 | 27.21                                   | 49.07                                                            | 65.50           |
| May          | Maximum | 144.59                           | 75.98                                       | 26.21                                        | 49.99                                 | 44.67                                   | 82.61                                                            | 106.18          |
|              | average | 124.01                           | 66.13                                       | 24.16                                        | 43.00                                 | 39.77                                   | 74.17                                                            | 92.35           |
|              | minimum | 91.48                            | 48.94                                       | 22.30                                        | 34.42                                 | 32.92                                   | 60.46                                                            | 69.82           |
| June         | Maximum | 163.28                           | 73.17                                       | 28.27                                        | 50.65                                 | 56.41                                   | 95.84                                                            | 119.13          |
|              | average | 135.71                           | 62.75                                       | 26.40                                        | 45.09                                 | 48.98                                   | 85.06                                                            | 100.79          |
|              | minimum | 109.40                           | 51.97                                       | 24.08                                        | 39.28                                 | 41.53                                   | 72.95                                                            | 82.81           |
| July         | Maximum | 158.88                           | 77.19                                       | 27.83                                        | 49.85                                 | 48.86                                   | 88.73                                                            | 115.57          |
|              | average | 138.27                           | 67.74                                       | 25.64                                        | 45.09                                 | 43.52                                   | 79.59                                                            | 101.42          |
|              | minimum | 102.76                           | 50.02                                       | 23.06                                        | 36.77                                 | 33.52                                   | 62.94                                                            | 76.47           |
| August       | Maximum | 132.11                           | 79.19                                       | 22.99                                        | 40.50                                 | 40.39                                   | 70.89                                                            | 97.44           |
|              | average | 117.75                           | 70.61                                       | 19.99                                        | 36.73                                 | 36.67                                   | 66.05                                                            | 87.72           |
|              | minimum | 102.53                           | 60.77                                       | 17.60                                        | 32.59                                 | 33.27                                   | 60.58                                                            | 77.63           |
| September    | Maximum | 104.79                           | 59.73                                       | 16.42                                        | 24.07                                 | 22.91                                   | 41.44                                                            | 74.81           |
|              | average | 86.69                            | 49.11                                       | 14.08                                        | 21.48                                 | 20.85                                   | 38.03                                                            | 62.75           |
|              | minimum | 69.95                            | 40.19                                       | 11.80                                        | 18.89                                 | 18.24                                   | 33.35                                                            | 51.58           |
| October      | Maximum | 68.41                            | 11.30                                       | 11.26                                        | 12.90                                 | 12.98                                   | 23.30                                                            | 46.21           |
|              | average | 54.55                            | 9.83                                        | 9.80                                         | 11.44                                 | 11.69                                   | 20.84                                                            | 37.62           |
|              | minimum | 37.60                            | 8.60                                        | 8.60                                         | 9.79                                  | 9.93                                    | 17.77                                                            | 26.83           |
| November     | Maximum | 33.54                            | 6.47                                        | 6.47                                         | 7.53                                  | 7.71                                    | 13.74                                                            | 23.98           |
|              | average | 26.62                            | 5.75                                        | 5.75                                         | 6.77                                  | 6.86                                    | 12.28                                                            | 19.36           |
|              | minimum | 20.26                            | 5.33                                        | 5.33                                         | 6.04                                  | 6.01                                    | 10.83                                                            | 15.07           |
| December     | Maximum | 25.37                            | 5.19                                        | 5.19                                         | 5.84                                  | 6.52                                    | 11.19                                                            | 18.78           |
|              | average | 19.18                            | 4.19                                        | 4.19                                         | 4.82                                  | 5.42                                    | 9.28                                                             | 14.44           |
|              | minimum | 15.84                            | 2.90                                        | 2.90                                         | 3.46                                  | 3.86                                    | 6.63                                                             | 11.71           |
| All years    | Maximum | 1005.5                           | 478.1                                       | 182.9                                        | 291.4                                 | 295.1                                   | 527.0                                                            | 734.3           |
|              | average | 957.0                            | 450.3                                       | 176.6                                        | 282.1                                 | 282.0                                   | 507.7                                                            | 701.8           |
|              | minimum | 908.1                            | 423.9                                       | 171.8                                        | 274.0                                 | 269.5                                   | 495.0                                                            | 670.1           |

Highest combined yield hour: 2016-05-17 09:10 UTC 19628.0 W (0.546 W/Wp) of 35930 Wp installed. Use this hour to size battery charge power.

Monthly and yearly specific yield (kWh/kWp = Wh/Wp)  
Austria - Inning 48.182, 15.417

| Month / year |         | Roof south<br>22°/0°<br>3000 Wp | Roof east<br>22°/-90°<br>3000 Wp | Roof west<br>22°/90°<br>3000 Wp | All<br>together |
|--------------|---------|---------------------------------|----------------------------------|---------------------------------|-----------------|
| January      | Maximum | 59.27                           | 36.85                            | 30.08                           | 24.19           |
|              | average | 37.06                           | 23.58                            | 23.23                           | 17.59           |
|              | minimum | 23.55                           | 16.80                            | 18.03                           | 13.49           |
| February     | Maximum | 75.54                           | 49.26                            | 49.87                           | 35.52           |
|              | average | 58.38                           | 40.22                            | 41.12                           | 29.70           |
|              | minimum | 36.92                           | 30.48                            | 29.89                           | 22.93           |
| March        | Maximum | 133.58                          | 99.75                            | 99.70                           | 71.15           |
|              | average | 95.71                           | 74.39                            | 76.61                           | 55.71           |
|              | minimum | 71.29                           | 59.28                            | 58.23                           | 44.92           |
| April        | Maximum | 156.48                          | 133.40                           | 131.91                          | 100.86          |
|              | average | 122.70                          | 105.31                           | 106.56                          | 82.33           |
|              | minimum | 95.59                           | 82.02                            | 84.70                           | 65.50           |
| May          | Maximum | 150.08                          | 137.57                           | 139.02                          | 106.18          |
|              | average | 128.09                          | 118.60                           | 118.75                          | 92.35           |
|              | minimum | 93.07                           | 87.34                            | 88.28                           | 69.82           |
| June         | Maximum | 165.27                          | 156.95                           | 153.86                          | 119.13          |
|              | average | 136.66                          | 128.94                           | 130.27                          | 100.79          |
|              | minimum | 109.18                          | 103.92                           | 106.46                          | 82.81           |
| July         | Maximum | 162.55                          | 152.09                           | 151.66                          | 115.57          |
|              | average | 141.16                          | 131.40                           | 132.40                          | 101.42          |
|              | minimum | 103.60                          | 97.26                            | 99.10                           | 76.47           |
| August       | Maximum | 142.95                          | 126.69                           | 125.59                          | 97.44           |
|              | average | 126.99                          | 111.62                           | 113.81                          | 87.72           |
|              | minimum | 109.63                          | 94.28                            | 100.43                          | 77.63           |
| September    | Maximum | 126.49                          | 98.66                            | 103.01                          | 74.81           |
|              | average | 102.56                          | 82.54                            | 84.24                           | 62.75           |
|              | minimum | 81.14                           | 67.58                            | 67.69                           | 51.58           |
| October      | Maximum | 96.83                           | 60.47                            | 74.56                           | 46.21           |
|              | average | 72.60                           | 50.79                            | 54.92                           | 37.62           |
|              | minimum | 47.41                           | 35.78                            | 37.36                           | 26.83           |
| November     | Maximum | 53.94                           | 32.08                            | 33.83                           | 23.98           |
|              | average | 39.49                           | 25.23                            | 26.53                           | 19.36           |
|              | minimum | 27.00                           | 19.79                            | 20.38                           | 15.07           |
| December     | Maximum | 49.81                           | 24.73                            | 25.32                           | 18.78           |
|              | average | 32.24                           | 18.98                            | 19.08                           | 14.44           |
|              | minimum | 24.36                           | 15.07                            | 15.87                           | 11.71           |
| All years    | Maximum | 1149.3                          | 966.9                            | 966.2                           | 734.3           |
|              | average | 1093.6                          | 911.6                            | 927.5                           | 701.8           |
|              | minimum | 1028.3                          | 855.5                            | 881.1                           | 670.1           |

Highest combined yield hour: 2016-05-17 09:10 UTC 19628.0 W (0.546 W/Wp) of 35930 Wp installed. Use this hour to size battery charge power.

Monthly and yearly total yield (kWh)  
Austria - Inning 48.182, 15.417

| Month / year |         | Garage roof<br>1°/0°<br>10740 Wp | Garage side wall south<br>90°/0°<br>3475 Wp | Garage side wall north<br>90°/180°<br>3475 Wp | Garage door side<br>90°/90°<br>700 Wp | Garage back side<br>90°/-90°<br>2540 Wp | Garden fence east<br>90°/-90° + 90°/90°<br>6000 Wp bifacial ×80% | All<br>together |
|--------------|---------|----------------------------------|---------------------------------------------|-----------------------------------------------|---------------------------------------|-----------------------------------------|------------------------------------------------------------------|-----------------|
| January      | Maximum | 352.7                            | 25.2                                        | 25.2                                          | 5.6                                   | 23.1                                    | 93.1                                                             | 869.1           |
|              | average | 253.6                            | 18.3                                        | 18.3                                          | 4.2                                   | 17.1                                    | 68.8                                                             | 631.9           |
|              | minimum | 192.8                            | 14.2                                        | 14.2                                          | 3.2                                   | 13.4                                    | 53.8                                                             | 484.8           |
| February     | Maximum | 553.7                            | 34.0                                        | 34.0                                          | 8.2                                   | 28.1                                    | 122.8                                                            | 1276.3          |
|              | average | 449.0                            | 28.6                                        | 28.6                                          | 7.5                                   | 24.6                                    | 109.5                                                            | 1067.0          |
|              | minimum | 327.9                            | 24.3                                        | 24.3                                          | 6.7                                   | 22.5                                    | 99.5                                                             | 823.9           |
| March        | Maximum | 1113.4                           | 139.1                                       | 56.2                                          | 14.5                                  | 52.2                                    | 222.6                                                            | 2556.5          |
|              | average | 839.7                            | 111.7                                       | 49.1                                          | 13.0                                  | 47.3                                    | 200.7                                                            | 2001.6          |
|              | minimum | 654.6                            | 83.3                                        | 42.4                                          | 11.4                                  | 40.9                                    | 174.5                                                            | 1613.9          |
| April        | Maximum | 1488.4                           | 298.4                                       | 72.3                                          | 24.9                                  | 94.0                                    | 392.3                                                            | 3623.8          |
|              | average | 1188.0                           | 238.2                                       | 65.9                                          | 22.8                                  | 84.3                                    | 355.4                                                            | 2958.3          |
|              | minimum | 935.8                            | 187.8                                       | 58.3                                          | 19.1                                  | 69.1                                    | 294.4                                                            | 2353.3          |
| May          | Maximum | 1552.9                           | 264.0                                       | 91.1                                          | 35.0                                  | 113.5                                   | 495.7                                                            | 3815.0          |
|              | average | 1331.9                           | 229.8                                       | 83.9                                          | 30.1                                  | 101.0                                   | 445.0                                                            | 3318.1          |
|              | minimum | 982.4                            | 170.1                                       | 77.5                                          | 24.1                                  | 83.6                                    | 362.8                                                            | 2508.7          |
| June         | Maximum | 1753.7                           | 254.3                                       | 98.2                                          | 35.5                                  | 143.3                                   | 575.0                                                            | 4280.3          |
|              | average | 1457.5                           | 218.1                                       | 91.8                                          | 31.6                                  | 124.4                                   | 510.3                                                            | 3621.2          |
|              | minimum | 1175.0                           | 180.6                                       | 83.7                                          | 27.5                                  | 105.5                                   | 437.7                                                            | 2975.3          |
| July         | Maximum | 1706.4                           | 268.2                                       | 96.7                                          | 34.9                                  | 124.1                                   | 532.4                                                            | 4152.4          |
|              | average | 1485.0                           | 235.4                                       | 89.1                                          | 31.6                                  | 110.5                                   | 477.5                                                            | 3644.0          |
|              | minimum | 1103.6                           | 173.8                                       | 80.1                                          | 25.7                                  | 85.1                                    | 377.7                                                            | 2747.4          |
| August       | Maximum | 1418.8                           | 275.2                                       | 79.9                                          | 28.4                                  | 102.6                                   | 425.4                                                            | 3501.1          |
|              | average | 1264.6                           | 245.4                                       | 69.5                                          | 25.7                                  | 93.1                                    | 396.3                                                            | 3151.9          |
|              | minimum | 1101.1                           | 211.2                                       | 61.2                                          | 22.8                                  | 84.5                                    | 363.5                                                            | 2789.1          |
| September    | Maximum | 1125.4                           | 207.6                                       | 57.1                                          | 16.8                                  | 58.2                                    | 248.7                                                            | 2688.1          |
|              | average | 931.1                            | 170.6                                       | 48.9                                          | 15.0                                  | 53.0                                    | 228.2                                                            | 2254.8          |
|              | minimum | 751.2                            | 139.7                                       | 41.0                                          | 13.2                                  | 46.3                                    | 200.1                                                            | 1853.2          |
| October      | Maximum | 734.7                            | 39.3                                        | 39.1                                          | 9.0                                   | 33.0                                    | 139.8                                                            | 1660.5          |
|              | average | 585.9                            | 34.2                                        | 34.1                                          | 8.0                                   | 29.7                                    | 125.0                                                            | 1351.8          |
|              | minimum | 403.9                            | 29.9                                        | 29.9                                          | 6.9                                   | 25.2                                    | 106.6                                                            | 964.0           |
| November     | Maximum | 360.3                            | 22.5                                        | 22.5                                          | 5.3                                   | 19.6                                    | 82.4                                                             | 861.7           |
|              | average | 285.9                            | 20.0                                        | 20.0                                          | 4.7                                   | 17.4                                    | 73.7                                                             | 695.4           |
|              | minimum | 217.6                            | 18.5                                        | 18.5                                          | 4.2                                   | 15.3                                    | 65.0                                                             | 541.3           |
| December     | Maximum | 272.5                            | 18.0                                        | 18.0                                          | 4.1                                   | 16.6                                    | 67.1                                                             | 674.6           |
|              | average | 206.0                            | 14.5                                        | 14.5                                          | 3.4                                   | 13.8                                    | 55.7                                                             | 518.8           |
|              | minimum | 170.1                            | 10.1                                        | 10.1                                          | 2.4                                   | 9.8                                     | 39.8                                                             | 420.8           |
| All years    | Maximum | 10799                            | 1662                                        | 636                                           | 204                                   | 750                                     | 3162                                                             | 26382           |
|              | average | 10278                            | 1565                                        | 614                                           | 197                                   | 716                                     | 3046                                                             | 25215           |
|              | minimum | 9753                             | 1473                                        | 597                                           | 192                                   | 684                                     | 2970                                                             | 24076           |

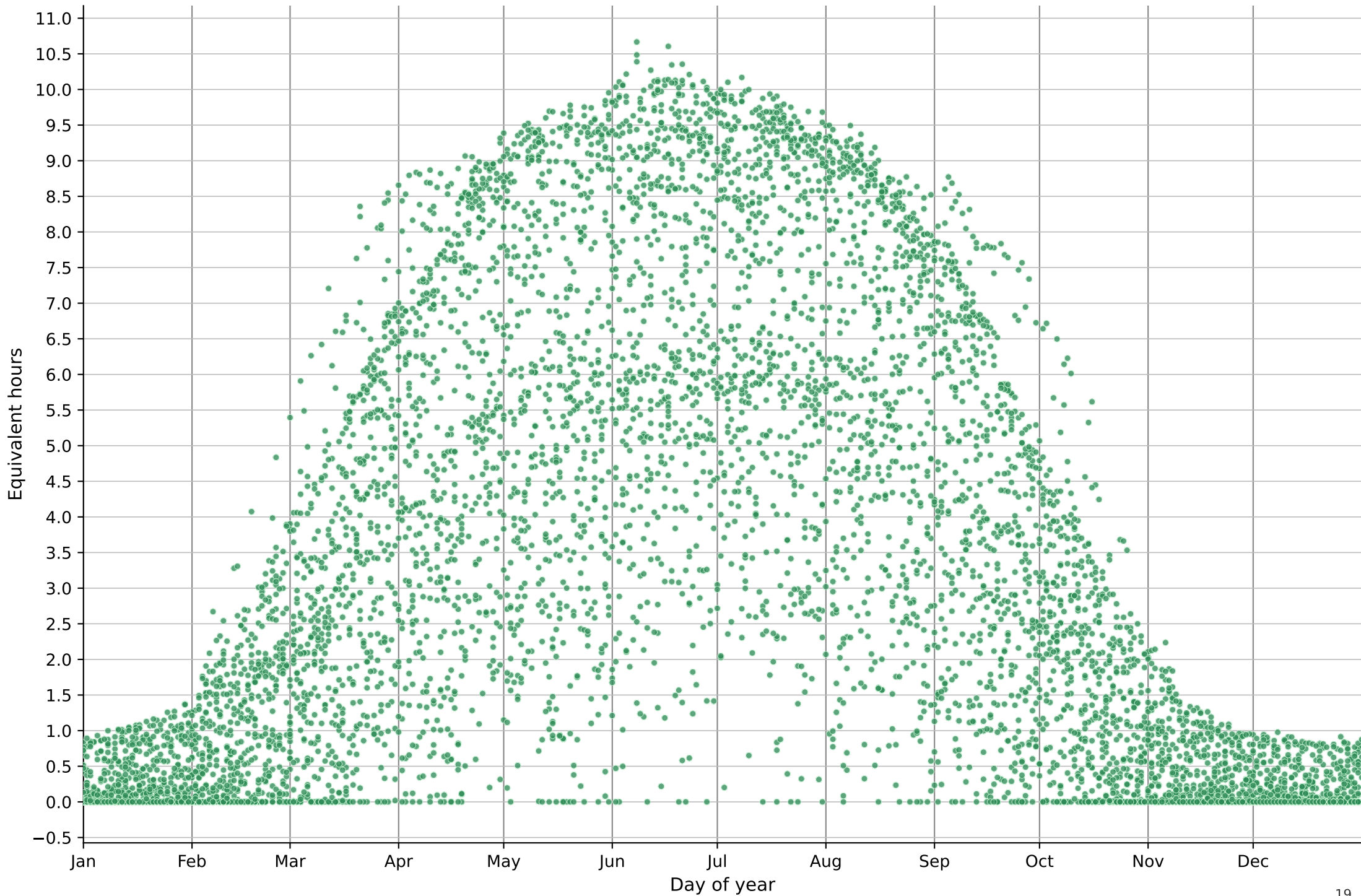
Highest combined yield hour: 2016-05-17 09:10 UTC 19628.0 W (0.546 W/Wp) of 35930 Wp installed. Use this hour to size battery charge power.

Monthly and yearly total yield (kWh)  
Austria - Inning 48.182, 15.417

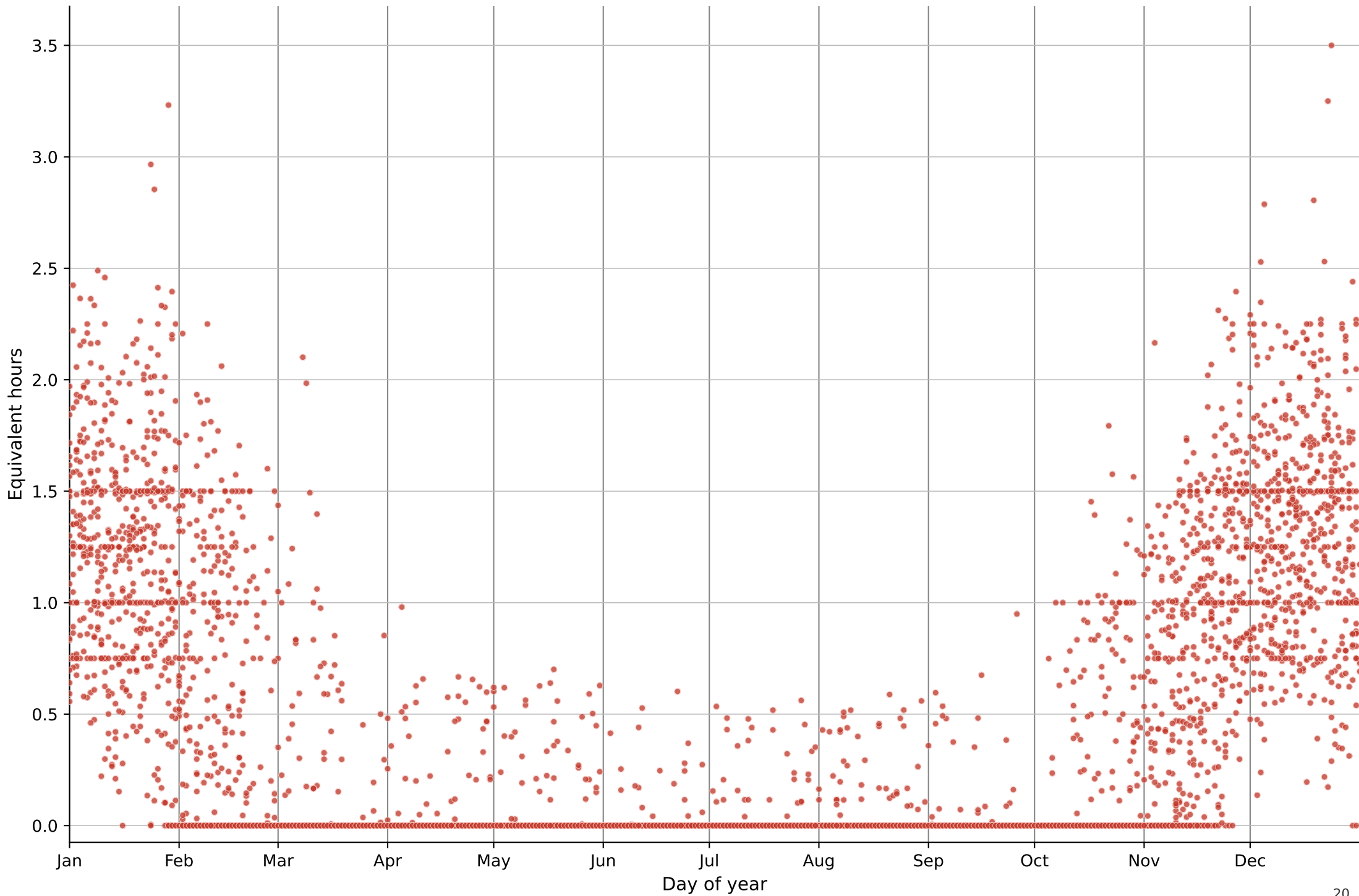
| Month / year |         | Roof south<br>22°/0°<br>3000 Wp | Roof east<br>22°/-90°<br>3000 Wp | Roof west<br>22°/90°<br>3000 Wp | All<br>together |
|--------------|---------|---------------------------------|----------------------------------|---------------------------------|-----------------|
| January      | Maximum | 177.8                           | 110.5                            | 90.2                            | 869.1           |
|              | average | 111.2                           | 70.7                             | 69.7                            | 631.9           |
|              | minimum | 70.7                            | 50.4                             | 54.1                            | 484.8           |
| February     | Maximum | 226.6                           | 147.8                            | 149.6                           | 1276.3          |
|              | average | 175.1                           | 120.7                            | 123.4                           | 1067.0          |
|              | minimum | 110.8                           | 91.4                             | 89.7                            | 823.9           |
| March        | Maximum | 400.7                           | 299.3                            | 299.1                           | 2556.5          |
|              | average | 287.1                           | 223.2                            | 229.8                           | 2001.6          |
|              | minimum | 213.9                           | 177.8                            | 174.7                           | 1613.9          |
| April        | Maximum | 469.5                           | 400.2                            | 395.7                           | 3623.8          |
|              | average | 368.1                           | 315.9                            | 319.7                           | 2958.3          |
|              | minimum | 286.8                           | 246.1                            | 254.1                           | 2353.3          |
| May          | Maximum | 450.2                           | 412.7                            | 417.0                           | 3815.0          |
|              | average | 384.3                           | 355.8                            | 356.2                           | 3318.1          |
|              | minimum | 279.2                           | 262.0                            | 264.8                           | 2508.7          |
| June         | Maximum | 495.8                           | 470.9                            | 461.6                           | 4280.3          |
|              | average | 410.0                           | 386.8                            | 390.8                           | 3621.2          |
|              | minimum | 327.5                           | 311.8                            | 319.4                           | 2975.3          |
| July         | Maximum | 487.6                           | 456.3                            | 455.0                           | 4152.4          |
|              | average | 423.5                           | 394.2                            | 397.2                           | 3644.0          |
|              | minimum | 310.8                           | 291.8                            | 297.3                           | 2747.4          |
| August       | Maximum | 428.8                           | 380.1                            | 376.8                           | 3501.1          |
|              | average | 381.0                           | 334.9                            | 341.4                           | 3151.9          |
|              | minimum | 328.9                           | 282.8                            | 301.3                           | 2789.1          |
| September    | Maximum | 379.5                           | 296.0                            | 309.0                           | 2688.1          |
|              | average | 307.7                           | 247.6                            | 252.7                           | 2254.8          |
|              | minimum | 243.4                           | 202.8                            | 203.1                           | 1853.2          |
| October      | Maximum | 290.5                           | 181.4                            | 223.7                           | 1660.5          |
|              | average | 217.8                           | 152.4                            | 164.8                           | 1351.8          |
|              | minimum | 142.2                           | 107.3                            | 112.1                           | 964.0           |
| November     | Maximum | 161.8                           | 96.3                             | 101.5                           | 861.7           |
|              | average | 118.5                           | 75.7                             | 79.6                            | 695.4           |
|              | minimum | 81.0                            | 59.4                             | 61.2                            | 541.3           |
| December     | Maximum | 149.4                           | 74.2                             | 75.9                            | 674.6           |
|              | average | 96.7                            | 56.9                             | 57.2                            | 518.8           |
|              | minimum | 73.1                            | 45.2                             | 47.6                            | 420.8           |
| All years    | Maximum | 3448                            | 2901                             | 2899                            | 26382           |
|              | average | 3281                            | 2735                             | 2783                            | 25215           |
|              | minimum | 3085                            | 2566                             | 2643                            | 24076           |

Highest combined yield hour: 2016-05-17 09:10 UTC 19628.0 W (0.546 W/Wp) of 35930 Wp installed. Use this hour to size battery charge power.

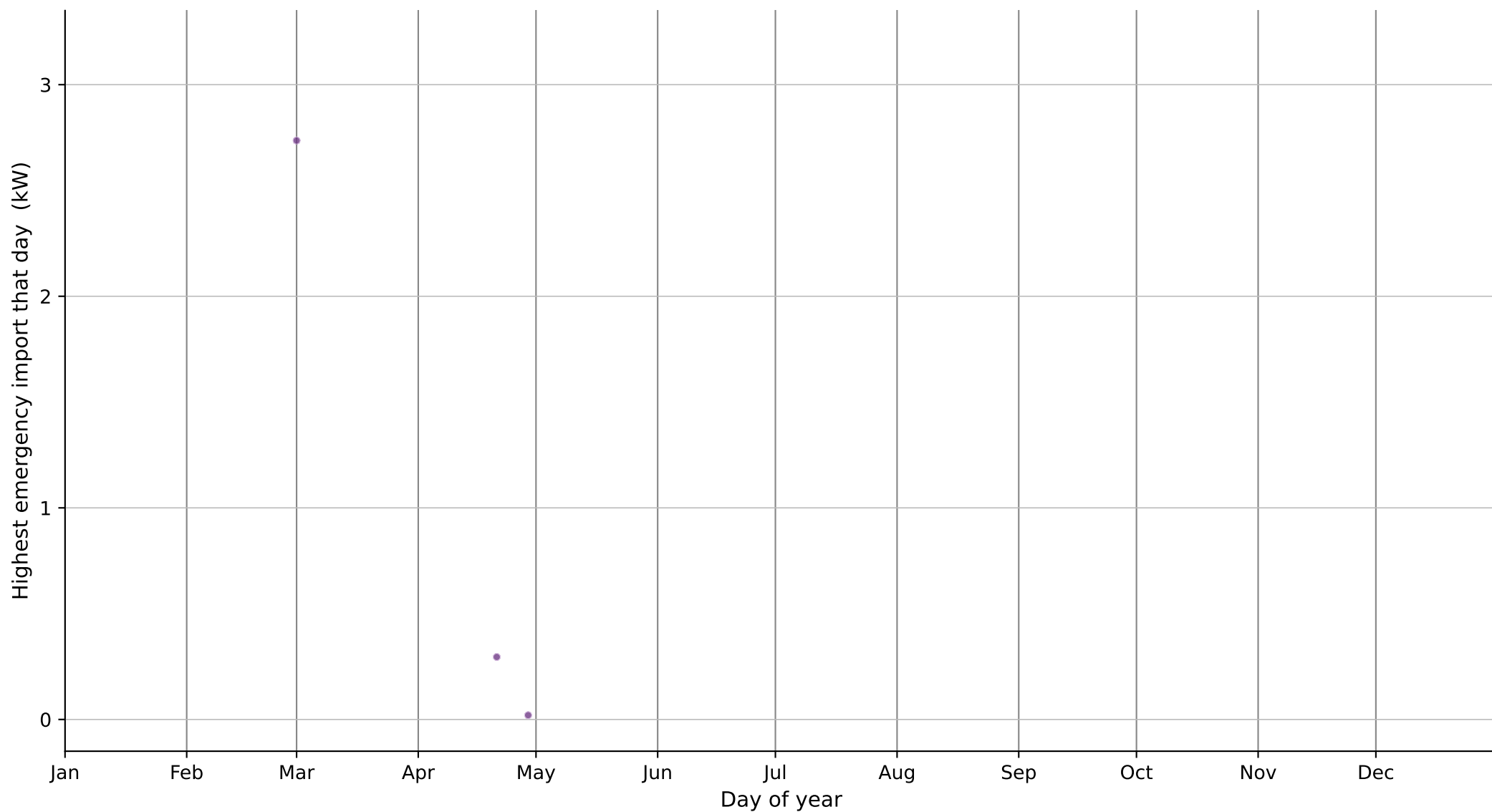
Export energy as equivalent hours (kWh / grid kW)  
Austria - Inning 48.182, 15.417



Import energy as equivalent hours (kWh / grid kW)  
Austria - Inning 48.182, 15.417



Emergency import hours: 4    days with an emergency: 3  
Austria - Inning    48.182, 15.417



Emergency = this hour's grid import is above the month's max import kW. 2 kW means up to 48 kWh in 24 hours. More than 2 kW in an hour is the higher grid fee. Import inside that cap is not an emergency. Preferred cheap hours are 00:00-06:00 and 09:00-15:00 winter time.

# Energy in kWh

## Austria - Inning 48.182, 15.417

|                                    | Jan  | Feb  | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct  | Nov  | Dec  | All   |
|------------------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|
| <b>Export to grid</b>              |      |      |       |       |       |       |       |       |       |      |      |      |       |
| month Maximum                      | 170  | 495  | 1585  | 2333  | 2550  | 2920  | 2930  | 2467  | 1802  | 880  | 231  | 137  | 15733 |
| month average                      | 111  | 343  | 1111  | 1806  | 2119  | 2427  | 2492  | 2157  | 1400  | 624  | 151  | 74   | 14815 |
| month minimum                      | 35   | 186  | 718   | 1246  | 1507  | 1932  | 1691  | 1777  | 1050  | 271  | 104  | 37   | 13624 |
| day Maximum                        | 16.5 | 58.0 | 102.5 | 111.8 | 119.4 | 128.0 | 122.0 | 114.0 | 105.3 | 80.6 | 26.8 | 11.7 | 128.0 |
| day average                        | 3.6  | 12.2 | 35.8  | 60.2  | 68.3  | 80.9  | 80.4  | 69.6  | 46.7  | 20.1 | 5.0  | 2.4  | 40.6  |
| day minimum                        | 0.0  | 0.0  | -0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | -0.0 | -0.0  |
| <b>Import from grid</b>            |      |      |       |       |       |       |       |       |       |      |      |      |       |
| month Maximum                      | 572  | 262  | 107   | 26    | 16    | 14    | 20    | 19    | 27    | 135  | 430  | 640  | 1963  |
| month average                      | 450  | 135  | 21    | 10    | 9     | 3     | 5     | 7     | 4     | 42   | 276  | 489  | 1452  |
| month minimum                      | 354  | 16   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 146  | 322  | 1121  |
| day Maximum                        | 38.8 | 27.0 | 25.2  | 11.8  | 8.4   | 7.2   | 6.7   | 7.1   | 11.4  | 21.5 | 28.7 | 42.0 | 42.0  |
| day average                        | 14.5 | 4.8  | 0.7   | 0.3   | 0.3   | 0.1   | 0.2   | 0.2   | 0.1   | 1.4  | 9.2  | 15.8 | 4.0   |
| day minimum                        | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| <b>Total energy used for house</b> |      |      |       |       |       |       |       |       |       |      |      |      |       |
| month Maximum                      | 1050 | 1013 | 872   | 722   | 661   | 563   | 547   | 556   | 610   | 736  | 811  | 991  | 8608  |
| month average                      | 888  | 794  | 797   | 669   | 615   | 529   | 517   | 521   | 562   | 678  | 750  | 853  | 8173  |
| month minimum                      | 802  | 721  | 737   | 595   | 561   | 498   | 501   | 495   | 512   | 613  | 711  | 789  | 7916  |
| day Maximum                        | 52.2 | 47.2 | 44.3  | 28.5  | 25.5  | 24.7  | 22.7  | 23.1  | 25.6  | 28.2 | 34.2 | 44.6 | 52.2  |
| day average                        | 28.6 | 28.1 | 25.7  | 22.3  | 19.8  | 17.6  | 16.7  | 16.8  | 18.7  | 21.9 | 25.0 | 27.5 | 22.4  |
| day minimum                        | 16.3 | 20.7 | 19.3  | 15.7  | 15.6  | 15.6  | 15.5  | 15.5  | 15.5  | 15.8 | 18.9 | 21.5 | 15.5  |

Month rows: kWh in that month. Day rows: best / average / worst day.

Total energy used for house = household + car + heating + cooling + DHW + direct electric.

PV not exported and not marked wasted is still in the battery, or could not leave because the grid was already full. It is not house use.

Energy by price  
Austria - Inning 48.182, 15.417

|                       | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  | All  |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Export                |      |      |      |      |      |      |      |      |      |      |      |      |      |
| month Maximum         | 10   | 50   | 191  | 281  | 312  | 323  | 343  | 315  | 242  | 121  | 16   | 8    | 1971 |
| month average         | 6    | 29   | 140  | 224  | 263  | 288  | 310  | 282  | 190  | 79   | 9    | 4    | 1826 |
| month minimum         | 2    | 11   | 84   | 146  | 190  | 243  | 243  | 243  | 141  | 15   | 6    | 2    | 1678 |
| day Maximum           | 1.1  | 9.2  | 16.2 | 15.8 | 16.8 | 16.2 | 16.4 | 15.5 | 15.9 | 15.0 | 3.6  | 0.8  | 16.8 |
| day average           | 0.2  | 1.0  | 4.5  | 7.5  | 8.5  | 9.6  | 10.0 | 9.1  | 6.3  | 2.5  | 0.3  | 0.1  | 5.0  |
| day minimum           | 0.0  | 0.0  | -0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | -0.0 | -0.0 |
| Import                |      |      |      |      |      |      |      |      |      |      |      |      |      |
| month Maximum         | 136  | 61   | 27   | 6    | 4    | 4    | 5    | 5    | 5    | 32   | 101  | 152  | 467  |
| month average         | 105  | 32   | 5    | 2    | 2    | 1    | 1    | 2    | 1    | 10   | 64   | 115  | 340  |
| month minimum         | 83   | 4    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 34   | 75   | 262  |
| day Maximum           | 9.1  | 6.8  | 6.4  | 2.1  | 2.0  | 1.9  | 1.7  | 1.9  | 2.1  | 5.5  | 6.9  | 9.9  | 9.9  |
| day average           | 3.4  | 1.1  | 0.2  | 0.1  | 0.1  | 0.0  | 0.0  | 0.1  | 0.0  | 0.3  | 2.1  | 3.7  | 0.9  |
| day minimum           | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Peak grid fee         |      |      |      |      |      |      |      |      |      |      |      |      |      |
| month Maximum         | 19   | 19   | 30   | 15   | 13   | 10   | 10   | 10   | 13   | 13   | 19   | 19   | 161  |
| month average         | 19   | 19   | 11   | 9    | 10   | 4    | 6    | 7    | 6    | 10   | 19   | 19   | 140  |
| month minimum         | 19   | 19   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 19   | 19   | 108  |
| day Maximum           | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| day average           | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| day minimum           | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Import incl. peak fee |      |      |      |      |      |      |      |      |      |      |      |      |      |
| month Maximum         | 155  | 80   | 58   | 21   | 16   | 13   | 15   | 14   | 17   | 44   | 120  | 171  | 606  |
| month average         | 124  | 51   | 16   | 12   | 12   | 5    | 7    | 9    | 7    | 20   | 83   | 134  | 479  |
| month minimum         | 102  | 23   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 53   | 94   | 401  |
| day Maximum           | 9.1  | 6.8  | 6.4  | 2.1  | 2.0  | 1.9  | 1.7  | 1.9  | 2.1  | 5.5  | 6.9  | 9.9  | 9.9  |
| day average           | 3.4  | 1.1  | 0.2  | 0.1  | 0.1  | 0.0  | 0.0  | 0.1  | 0.0  | 0.3  | 2.1  | 3.7  | 0.9  |
| day minimum           | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Balance               |      |      |      |      |      |      |      |      |      |      |      |      |      |
| month Maximum         | -92  | 27   | 178  | 268  | 296  | 323  | 343  | 311  | 242  | 118  | -39  | -86  | 1510 |
| month average         | -118 | -22  | 124  | 212  | 252  | 283  | 303  | 273  | 183  | 59   | -74  | -129 | 1347 |
| month minimum         | -151 | -69  | 66   | 125  | 179  | 235  | 229  | 231  | 124  | -18  | -113 | -167 | 1153 |
| day Maximum           | 0.8  | 9.2  | 16.2 | 15.8 | 16.8 | 16.2 | 16.4 | 15.5 | 15.9 | 15.0 | 3.6  | 0.0  | 16.8 |
| day average           | -3.2 | -0.1 | 4.4  | 7.4  | 8.4  | 9.6  | 10.0 | 9.1  | 6.3  | 2.2  | -1.8 | -3.6 | 4.1  |
| day minimum           | -9.1 | -6.8 | -6.4 | -1.9 | -1.0 | 0.0  | 0.0  | 0.0  | -2.1 | -5.5 | -6.9 | -9.9 | -9.9 |

Currency in Your units. Import and export use the cent/kWh of that hour. Peak fee 6.33 / kW / month is the highest import hour of the month (hourly stand-in for the 15-minute peak) and is added to that month's Sell only when export is above 0. At 0 cent, export PV yield only, not the battery. Do not sell when the earning is negative.

Export in kWh during price hours  
Austria - Inning 48.182, 15.417

|                                         | Jan  | Feb  | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct  | Nov  | Dec  | All   |
|-----------------------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|
| <b>Export total</b>                     |      |      |       |       |       |       |       |       |       |      |      |      |       |
| month Maximum                           | 170  | 495  | 1585  | 2333  | 2550  | 2920  | 2930  | 2467  | 1802  | 880  | 231  | 137  | 15733 |
| month average                           | 111  | 343  | 1111  | 1806  | 2119  | 2427  | 2492  | 2157  | 1400  | 624  | 151  | 74   | 14815 |
| month minimum                           | 35   | 186  | 718   | 1246  | 1507  | 1932  | 1691  | 1777  | 1050  | 271  | 104  | 37   | 13624 |
| day Maximum                             | 16.5 | 58.0 | 102.5 | 111.8 | 119.4 | 128.0 | 122.0 | 114.0 | 105.3 | 80.6 | 26.8 | 11.7 | 128.0 |
| day average                             | 3.6  | 12.2 | 35.8  | 60.2  | 68.3  | 80.9  | 80.4  | 69.6  | 46.7  | 20.1 | 5.0  | 2.4  | 40.6  |
| day minimum                             | 0.0  | 0.0  | -0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | -0.0 | -0.0  |
| <b>Export during high price hours</b>   |      |      |       |       |       |       |       |       |       |      |      |      |       |
| month Maximum                           | 0    | 141  | 671   | 1210  | 1330  | 1329  | 1423  | 1381  | 1067  | 457  | 45   | 0    | 8331  |
| month average                           | 0    | 57   | 499   | 964   | 1141  | 1207  | 1332  | 1234  | 825   | 285  | 6    | 0    | 7551  |
| month minimum                           | 0    | 0    | 282   | 678   | 843   | 1027  | 1099  | 1118  | 568   | 11   | 0    | 0    | 6872  |
| day Maximum                             | 0.0  | 34.5 | 63.0  | 65.0  | 67.0  | 65.4  | 66.2  | 65.5  | 68.0  | 62.3 | 15.5 | 0.0  | 68.0  |
| day average                             | 0.0  | 2.0  | 16.1  | 32.1  | 36.8  | 40.2  | 43.0  | 39.8  | 27.5  | 9.2  | 0.2  | 0.0  | 20.7  |
| day minimum                             | 0.0  | 0.0  | -0.0  | -0.0  | 0.0   | 0.0   | 0.0   | 0.0   | -0.0  | -0.0 | 0.0  | 0.0  | -0.0  |
| <b>Export during medium price hours</b> |      |      |       |       |       |       |       |       |       |      |      |      |       |
| month Maximum                           | 38   | 112  | 295   | 411   | 529   | 714   | 690   | 451   | 297   | 178  | 37   | 21   | 3107  |
| month average                           | 21   | 89   | 208   | 318   | 414   | 549   | 525   | 379   | 226   | 102  | 19   | 7    | 2857  |
| month minimum                           | 5    | 54   | 121   | 218   | 266   | 377   | 304   | 292   | 146   | 48   | 7    | 1    | 2579  |
| day Maximum                             | 3.8  | 9.4  | 15.6  | 23.0  | 30.1  | 34.0  | 32.0  | 24.9  | 16.3  | 9.1  | 3.4  | 2.6  | 34.0  |
| day average                             | 0.7  | 3.1  | 6.7   | 10.6  | 13.4  | 18.3  | 16.9  | 12.2  | 7.5   | 3.3  | 0.6  | 0.2  | 7.8   |
| day minimum                             | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | -0.0 | -0.0  |
| <b>Export during low price hours</b>    |      |      |       |       |       |       |       |       |       |      |      |      |       |
| month Maximum                           | 147  | 257  | 619   | 749   | 767   | 934   | 831   | 721   | 451   | 309  | 191  | 116  | 4728  |
| month average                           | 90   | 197  | 403   | 524   | 563   | 671   | 636   | 544   | 349   | 237  | 127  | 66   | 4406  |
| month minimum                           | 29   | 126  | 314   | 304   | 343   | 475   | 288   | 337   | 246   | 139  | 78   | 36   | 3923  |
| day Maximum                             | 13.3 | 37.7 | 54.9  | 51.3  | 62.7  | 56.2  | 46.8  | 47.2  | 47.9  | 46.8 | 23.0 | 10.4 | 62.7  |
| day average                             | 2.9  | 7.0  | 13.0  | 17.5  | 18.2  | 22.4  | 20.5  | 17.5  | 11.6  | 7.6  | 4.2  | 2.1  | 12.1  |
| day minimum                             | 0.0  | -0.0 | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | -0.0 | -0.0  |

kWh exported while that price band was active. Not the money. Winter time. High 06:00–09:00 and 17:00–20:00, sold first. Low 09:00–15:00, sold last. Medium is the rest.

# Heat pump

## Austria - Inning 48.182, 15.417

|                        | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  | All  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>Heating</b>         |      |      |      |      |      |      |      |      |      |      |      |      |      |
| month Maximum          | 546  | 542  | 369  | 240  | 166  | 88   | 61   | 69   | 136  | 238  | 328  | 491  | 2772 |
| month average          | 384  | 336  | 294  | 189  | 123  | 56   | 32   | 35   | 90   | 182  | 267  | 354  | 2343 |
| month minimum          | 298  | 266  | 235  | 120  | 72   | 28   | 15   | 7    | 44   | 121  | 230  | 290  | 2090 |
| day Maximum            | 35.9 | 31.0 | 28.1 | 12.4 | 9.4  | 8.7  | 6.9  | 7.5  | 9.8  | 12.1 | 18.1 | 28.5 | 35.9 |
| day average            | 12.4 | 11.9 | 9.5  | 6.3  | 4.0  | 1.9  | 1.0  | 1.1  | 3.0  | 5.9  | 8.9  | 11.4 | 6.4  |
| day minimum            | 0.0  | 4.6  | 3.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 3.0  | 5.4  | 0.0  |
| <b>Cooling</b>         |      |      |      |      |      |      |      |      |      |      |      |      |      |
| month Maximum          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.78 | 8.04 | 6.44 | 0.00 | 0.00 | 0.00 | 0.00 | 9.66 |
| month average          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 1.20 | 1.60 | 0.00 | 0.00 | 0.00 | 0.00 | 2.93 |
| month minimum          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| day Maximum            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.78 | 5.93 | 4.96 | 0.00 | 0.00 | 0.00 | 0.00 | 5.93 |
| day average            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| day minimum            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>DHW</b>             |      |      |      |      |      |      |      |      |      |      |      |      |      |
| month Maximum          | 70   | 65   | 70   | 62   | 61   | 55   | 52   | 53   | 54   | 64   | 63   | 66   | 722  |
| month average          | 70   | 63   | 69   | 59   | 59   | 53   | 49   | 50   | 52   | 62   | 63   | 66   | 714  |
| month minimum          | 70   | 62   | 68   | 55   | 55   | 50   | 48   | 48   | 48   | 59   | 62   | 65   | 701  |
| day Maximum            | 2.5  | 2.3  | 2.3  | 2.1  | 2.1  | 2.1  | 1.9  | 2.0  | 2.0  | 2.1  | 2.1  | 2.1  | 2.5  |
| day average            | 2.3  | 2.3  | 2.2  | 2.0  | 1.9  | 1.8  | 1.6  | 1.6  | 1.7  | 2.0  | 2.1  | 2.1  | 2.0  |
| day minimum            | 2.2  | 2.1  | 1.9  | 1.6  | 1.6  | 1.6  | 1.5  | 1.5  | 1.5  | 1.7  | 1.9  | 2.0  | 1.5  |
| <b>Direct electric</b> |      |      |      |      |      |      |      |      |      |      |      |      |      |
| month Maximum          | 110  | 157  | 39   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 4    | 59   | 164  |
| month average          | 16   | 17   | 4    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 7    | 44   |
| month minimum          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| day Maximum            | 19.9 | 15.0 | 12.5 | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 3.5  | 12.5 | 19.9 |
| day average            | 0.5  | 0.6  | 0.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.2  | 0.1  |
| day minimum            | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

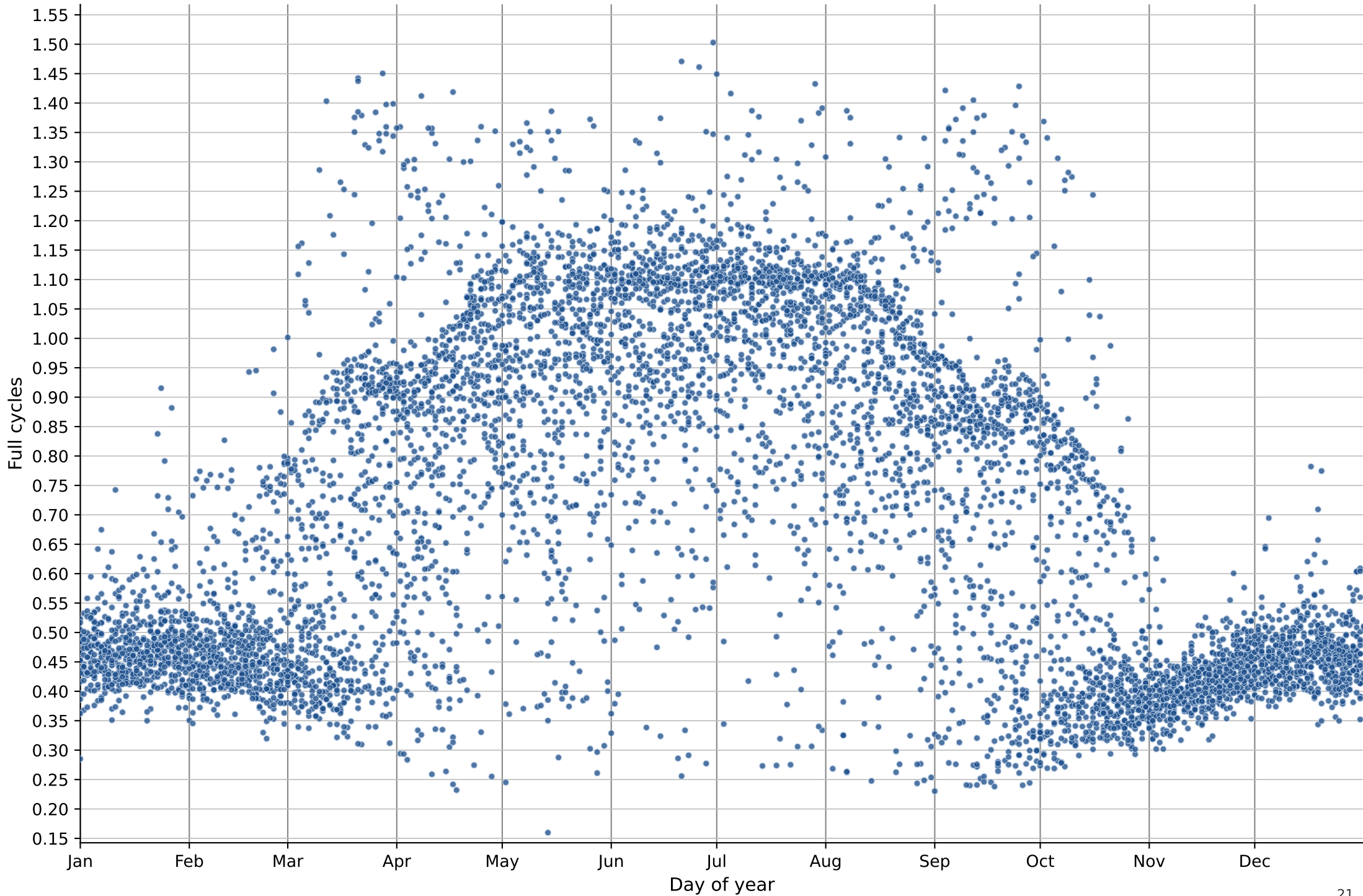
Heating, cooling and DHW are electricity. Direct electric is the part the heat pump could not cover.

Battery  
Austria - Inning 48.182, 15.417

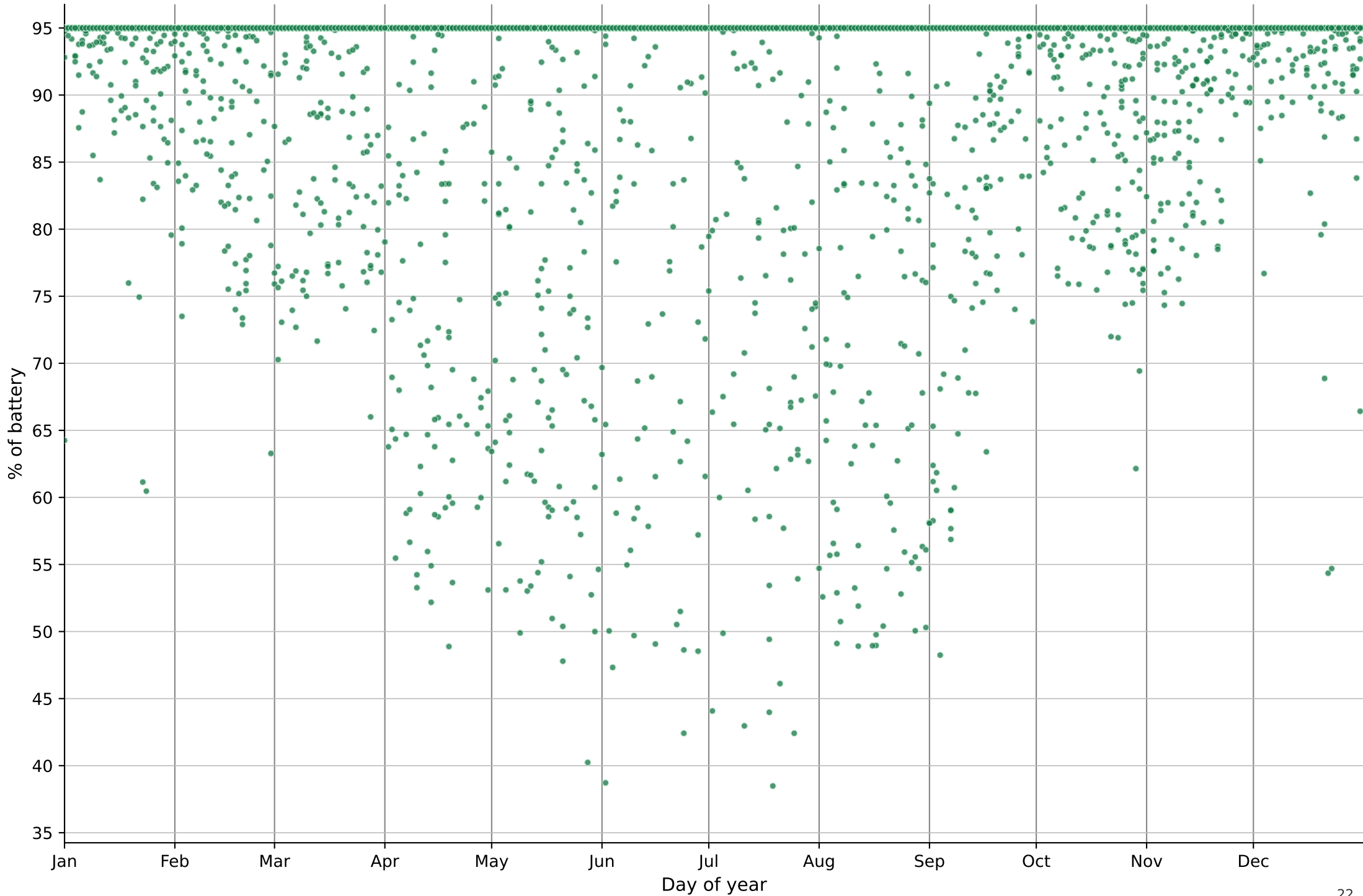
|               | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   | All    |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Wasted        |       |       |       |       |       |       |       |       |       |       |       |       |        |
| month Maximum | 0     | 0     | 45    | 564   | 582   | 697   | 614   | 450   | 253   | 0     | 0     | 0     | 2837   |
| month average | 0     | 0     | 27    | 369   | 446   | 522   | 484   | 345   | 171   | 0     | 0     | 0     | 2365   |
| month minimum | 0     | 0     | 8     | 218   | 248   | 353   | 369   | 232   | 72    | 0     | 0     | 0     | 2058   |
| day Maximum   | 0.0   | 0.0   | 12.8  | 62.8  | 66.3  | 81.1  | 65.8  | 57.7  | 52.3  | 0.2   | 0.0   | 0.0   | 81.1   |
| day average   | 0.0   | 0.0   | 0.9   | 12.3  | 14.4  | 17.4  | 15.6  | 11.1  | 5.7   | 0.0   | 0.0   | 0.0   | 6.5    |
| day minimum   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    |
| Full cycles   |       |       |       |       |       |       |       |       |       |       |       |       |        |
| month Maximum | 17.48 | 16.98 | 23.36 | 29.16 | 31.71 | 32.24 | 33.48 | 30.32 | 25.81 | 18.68 | 13.49 | 16.72 | 268.69 |
| month average | 14.76 | 13.79 | 20.89 | 25.78 | 29.06 | 29.95 | 31.02 | 28.17 | 22.57 | 16.08 | 12.54 | 14.35 | 258.96 |
| month minimum | 13.29 | 12.18 | 17.63 | 21.37 | 24.05 | 27.12 | 26.91 | 26.63 | 18.72 | 11.89 | 11.77 | 13.06 | 250.22 |
| day Maximum   | 0.92  | 0.98  | 1.45  | 1.42  | 1.39  | 1.50  | 1.43  | 1.39  | 1.43  | 1.37  | 0.66  | 0.78  | 1.50   |
| day average   | 0.48  | 0.49  | 0.67  | 0.86  | 0.94  | 1.00  | 1.00  | 0.91  | 0.75  | 0.52  | 0.42  | 0.46  | 0.71   |
| day minimum   | 0.29  | 0.32  | 0.31  | 0.23  | 0.16  | 0.26  | 0.27  | 0.24  | 0.23  | 0.27  | 0.30  | 0.34  | 0.16   |
| Charge C      |       |       |       |       |       |       |       |       |       |       |       |       |        |
| month Maximum | 0.16  | 0.21  | 0.29  | 0.31  | 0.32  | 0.31  | 0.31  | 0.29  | 0.28  | 0.21  | 0.16  | 0.12  | 2.88   |
| month average | 0.13  | 0.19  | 0.28  | 0.30  | 0.31  | 0.30  | 0.30  | 0.29  | 0.27  | 0.20  | 0.14  | 0.12  | 2.83   |
| month minimum | 0.12  | 0.15  | 0.25  | 0.29  | 0.30  | 0.29  | 0.29  | 0.28  | 0.26  | 0.17  | 0.13  | 0.11  | 2.79   |
| day Maximum   | 0.16  | 0.21  | 0.29  | 0.31  | 0.32  | 0.31  | 0.31  | 0.29  | 0.28  | 0.21  | 0.16  | 0.12  | 0.32   |
| day average   | 0.08  | 0.11  | 0.18  | 0.23  | 0.24  | 0.25  | 0.25  | 0.23  | 0.20  | 0.13  | 0.08  | 0.07  | 0.17   |
| day minimum   | 0.01  | 0.02  | 0.02  | 0.04  | 0.03  | 0.04  | 0.04  | 0.04  | 0.03  | 0.02  | 0.01  | 0.01  | 0.01   |
| Discharge C   |       |       |       |       |       |       |       |       |       |       |       |       |        |
| month Maximum | 0.10  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.08  | 2.27   |
| month average | 0.06  | 0.18  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.08  | 0.05  | 2.05   |
| month minimum | 0.04  | 0.05  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.11  | 0.04  | 0.04  | 1.90   |
| day Maximum   | 0.10  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.21  | 0.08  | 0.21   |
| day average   | 0.04  | 0.06  | 0.14  | 0.19  | 0.20  | 0.20  | 0.20  | 0.20  | 0.18  | 0.10  | 0.04  | 0.04  | 0.13   |
| day minimum   | 0.02  | 0.03  | 0.03  | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  | 0.03  | 0.02   |

Wasted = PV left when the export price is negative and the battery is full. Full cycles = discharge kWh / 60 kWh. Battery export only into hours whose export price is above 0, highest price first. At 0 cent only P

Battery cycles per day (discharge / 60 kWh)  
Austria - Inning 48.182, 15.417



Battery max charge state per day (60 kWh = 100 %)  
Austria - Inning 48.182, 15.417



Battery min charge state per day (60 kWh = 100 %)  
Austria - Inning 48.182, 15.417

