Scenario — PV
Just an apartment Austria - Salzburg 47.783, 13.067

Name	Slope °	Azimuth °	Wp	Wall d/h m	Face	Bifacial	Wp counted
Terrace railing	90	-12	3,000	—	front	—	yes
Above windows to top to roof	60	-12	490	—	front	—	yes
Wall to neighbor terrace	90	60	660	—	front	—	yes
Total counted			4,150				

Location: The apartment example. I lived there from 1978 to 1995. Small only one room apartment in the highest floor. Heat and DHW delivered by a central system. So in the example is heat demand 0 and 0 DHW liters because they are both not created by the own electric system. The pin location is a rounding error. The real location is house 43 at the south facing facade.
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 2008-12-28 12:10 local (11:10 UTC) 3,375 W 0.813 W/Wp of 4,150 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 import/export scheduling.

Scenario — house, heat pump, battery
Just an apartment Austria - Salzburg 47.783, 13.067

Chapter	Parameter	Value
Building	Design out / in / heat	-10.0 °C / 20.0 °C / 0 W
	Heat on / cool on / ground	22.0 °C / 25.0 °C / 10.0 °C
	Curve / flow min / max	0.4 / 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	0 L tank 42.0 °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	4.0 5.0 6.0
	kW −10/0/10 @ 50 °C	3.5 4.5 5.0
Battery	kWh / C-rate / SOC min–max–start	16.0 kWh C 0.5 5 / 95 / 50 %
	Nameplate	16 cells 314 Ah LFP
	Charge / discharge η	95 % / 90 %
Grid	Inverter / grid connection	4.0 kW / 4.0 kW
	Max export	4.0 kW
	Import cap Jan–Jun kW	Jan 2 Feb 2 Mar 2 Apr 2 May 2 Jun 2
	Import cap Jul–Dec kW	Jul 2 Aug 2 Sep 2 Oct 2 Nov 2 Dec 2
Cars	Lunch DC / night AC	0.0 kWh @ 30.0 kW night 10.0 kWh @ 4.0 kW

Clock is winter time UTC+1. Emergency import is an hour above the monthly kW cap.

Records 1–10 contribution of each PV
Austria - Salzburg 47.783, 13.067

PV	2008-12-28 11:10	2013-02-11 11:10	2012-02-11 11:10	2009-02-18 11:10	2009-02-19 11:10	2008-12-30 11:10	2008-01-03 11:10	2006-01-13 10:10	2008-12-26 11:10	2006-01-15 10:10
Terrace railing	2,619	2,606	2,601	2,581	2,571	2,569	2,570	2,710	2,556	2,699
Above windows to top to roof	437	463	462	467	466	429	430	451	426	451
Wall to neighbor terrace	318	284	285	280	280	311	304	141	313	137
Watt at record	3,375	3,353	3,348	3,327	3,316	3,309	3,304	3,302	3,295	3,287
Percent of installed peak	81.3	80.8	80.7	80.2	79.9	79.7	79.6	79.6	79.4	79.2

Values are watts at that hour. Date and time are UTC. Record 3,375 W (81.3 % of 4,150 Wp).

Hours at or above a share of the record
Austria - Salzburg 47.783, 13.067

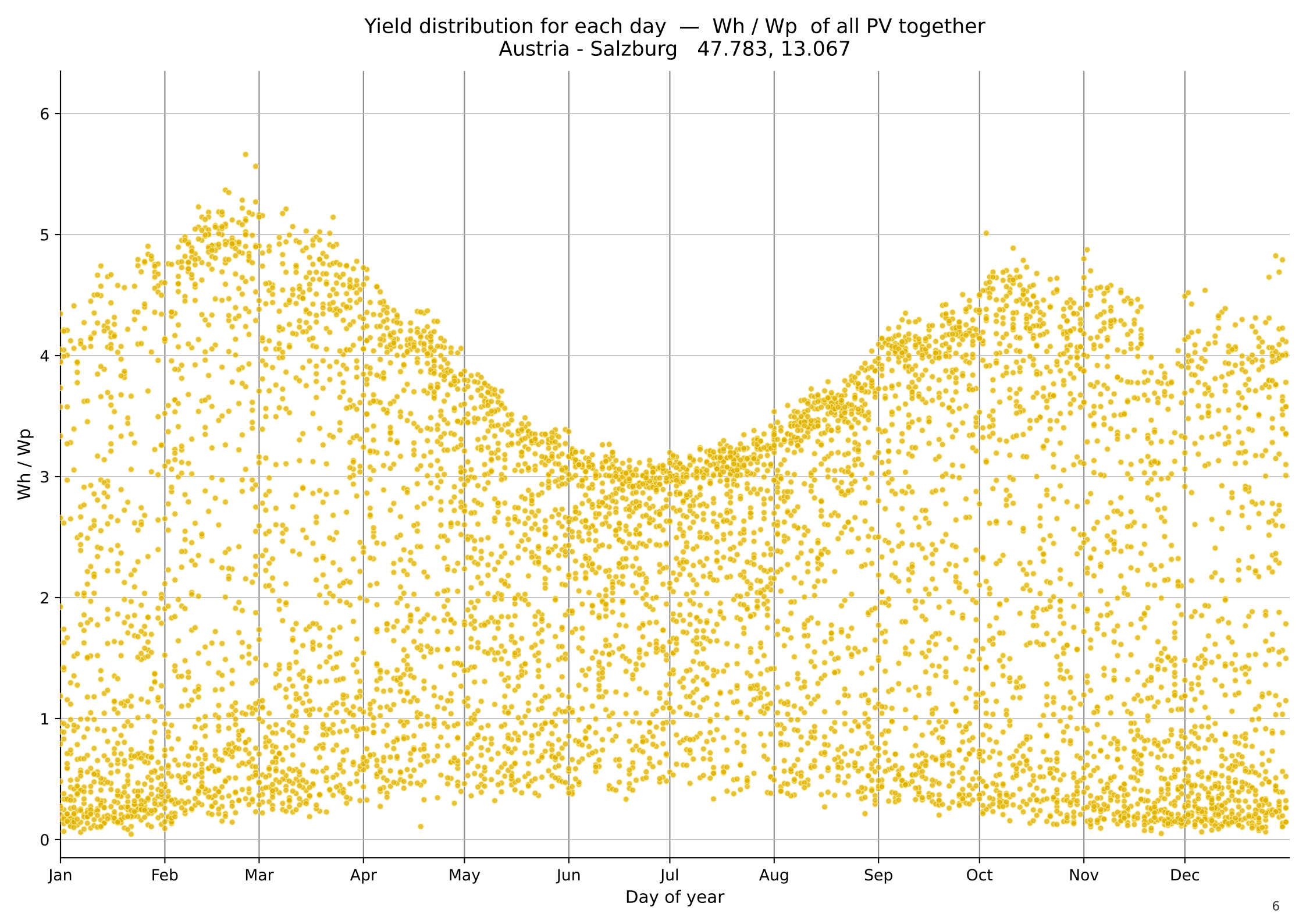
Of the record	Hours	Watts
98 %	6	3,307 W
96 %	20	3,240 W
94 %	40	3,172 W
92 %	76	3,105 W
90 %	156	3,037 W

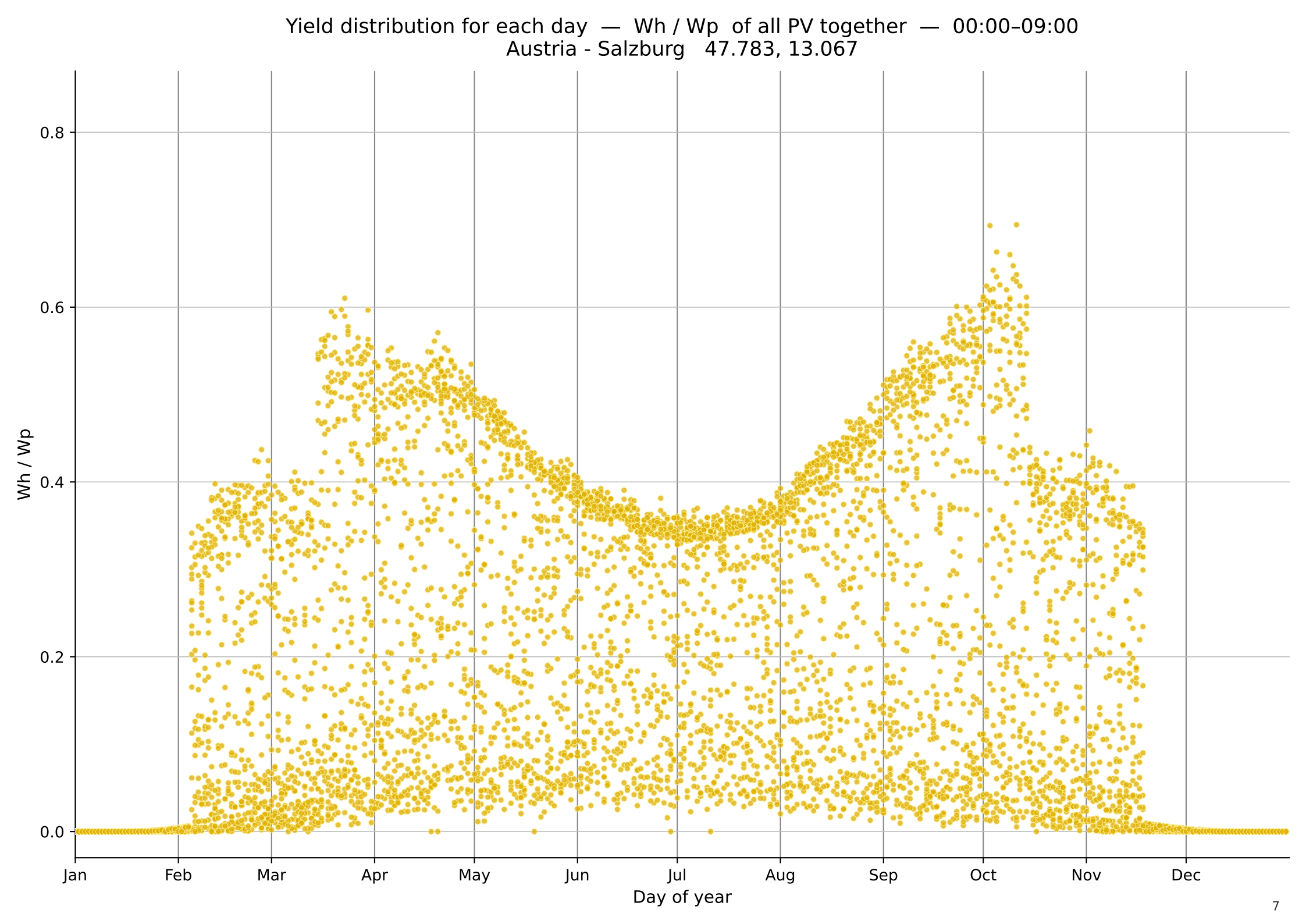
Record hour = 3,375 W combined.

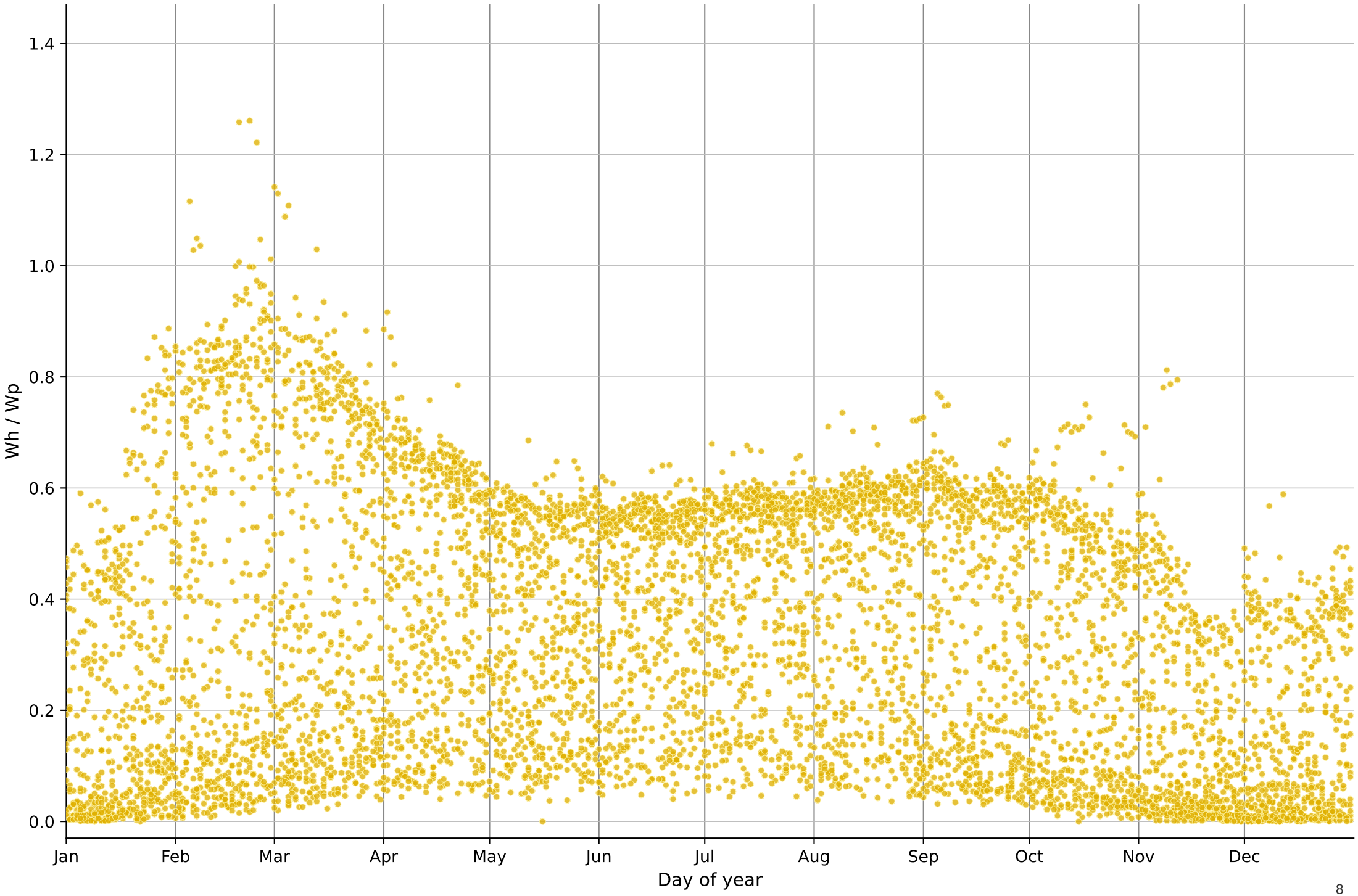
Records of each photovoltaic field
Austria - Salzburg 47.783, 13.067

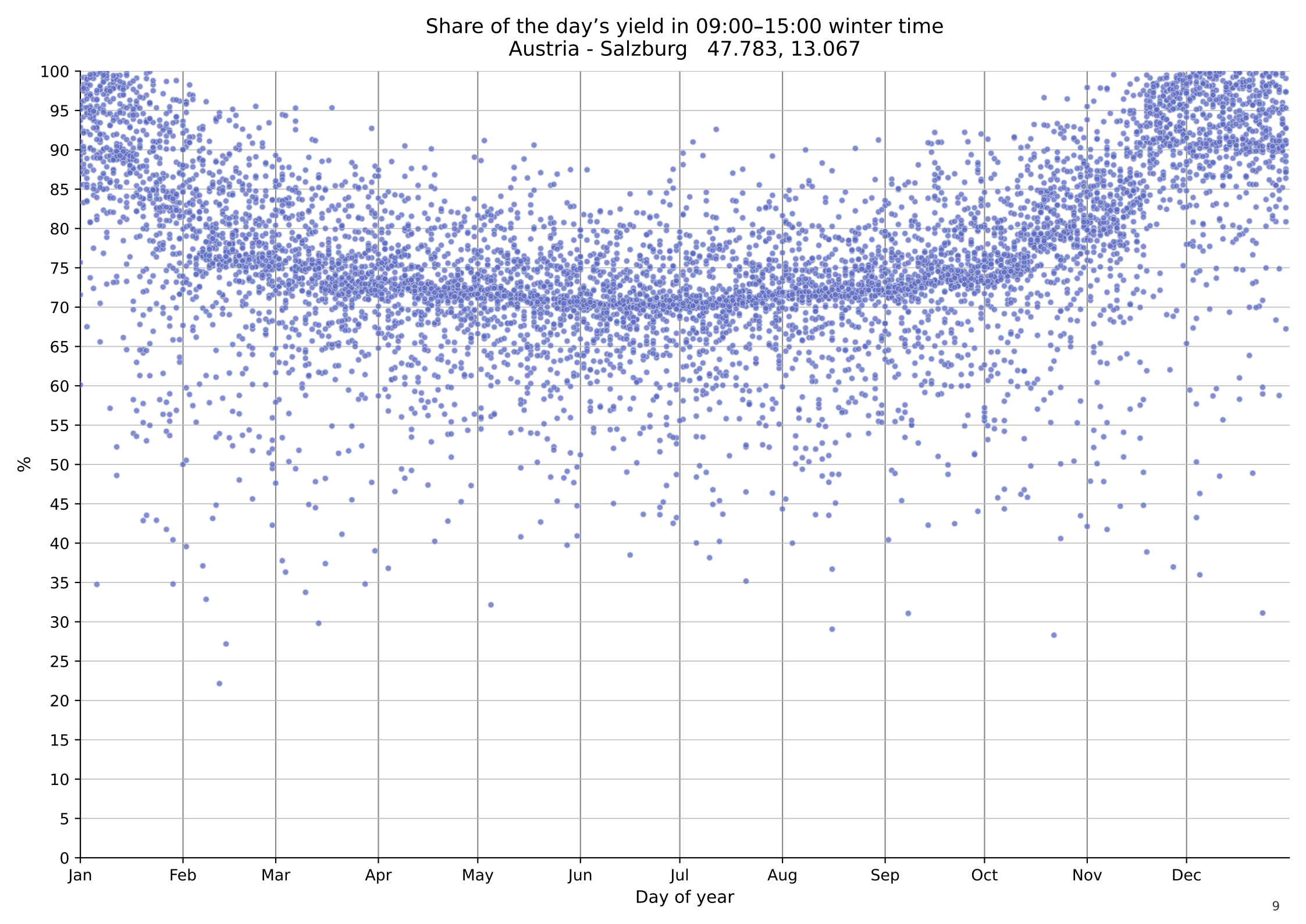
PV	Date	Watts	%	h ≥98%	h ≥96%	h ≥94%	h ≥92%	h ≥90%
Terrace railing	2006-01-13 10:10	2,710	90.3	6	18	44	85	156
Above windows to top to roof	2018-02-25 10:10	480	97.9	1	11	18	35	83
Wall to neighbor terrace	2005-02-05 15:10	623	94.4	4	9	12	17	19

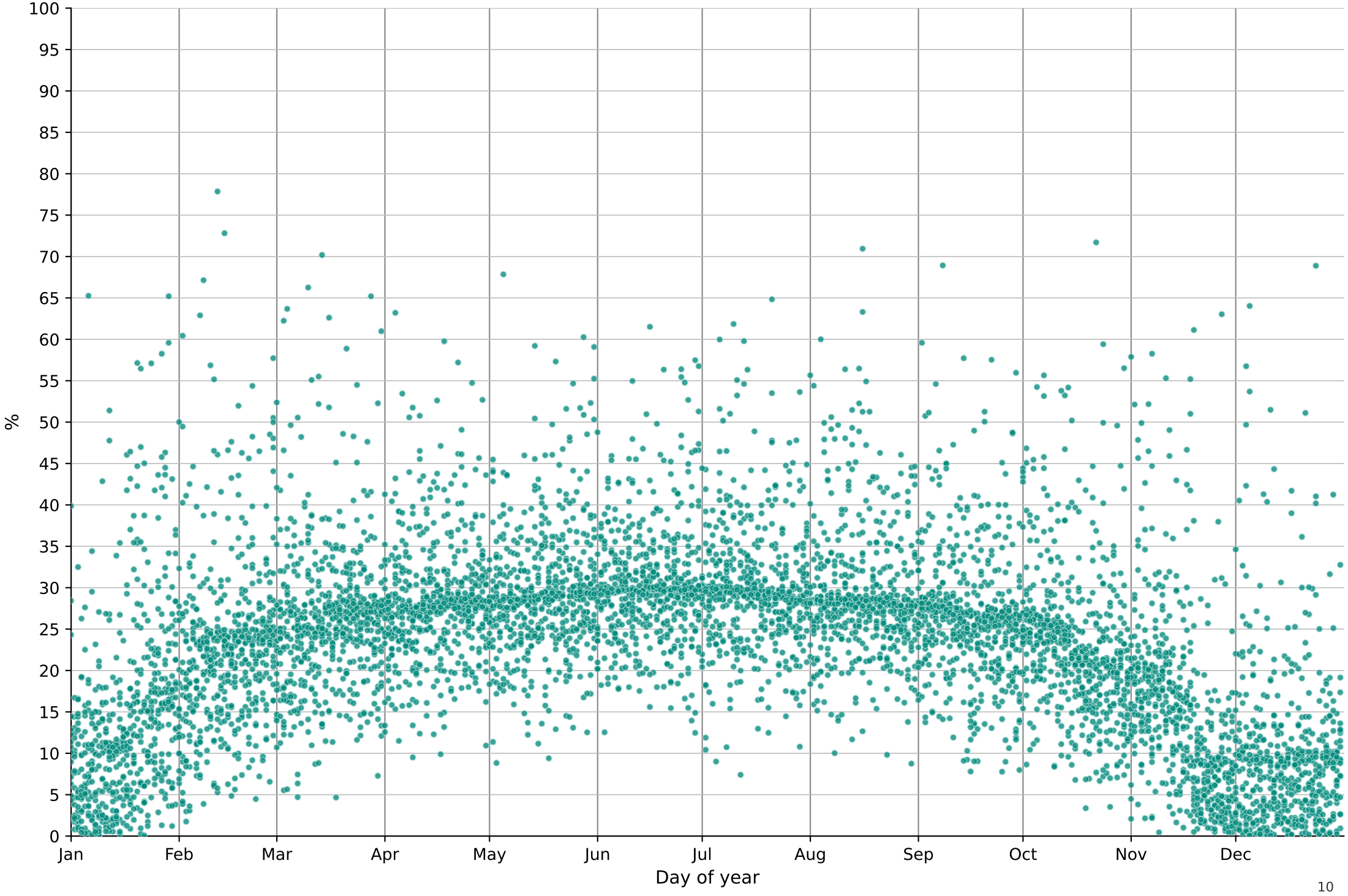
Watts is the highest hour of that field. % is of its own Wp. Hours are the count of hours at or above that share of its own record. Use this to size the MPPT or the inverter for that field.

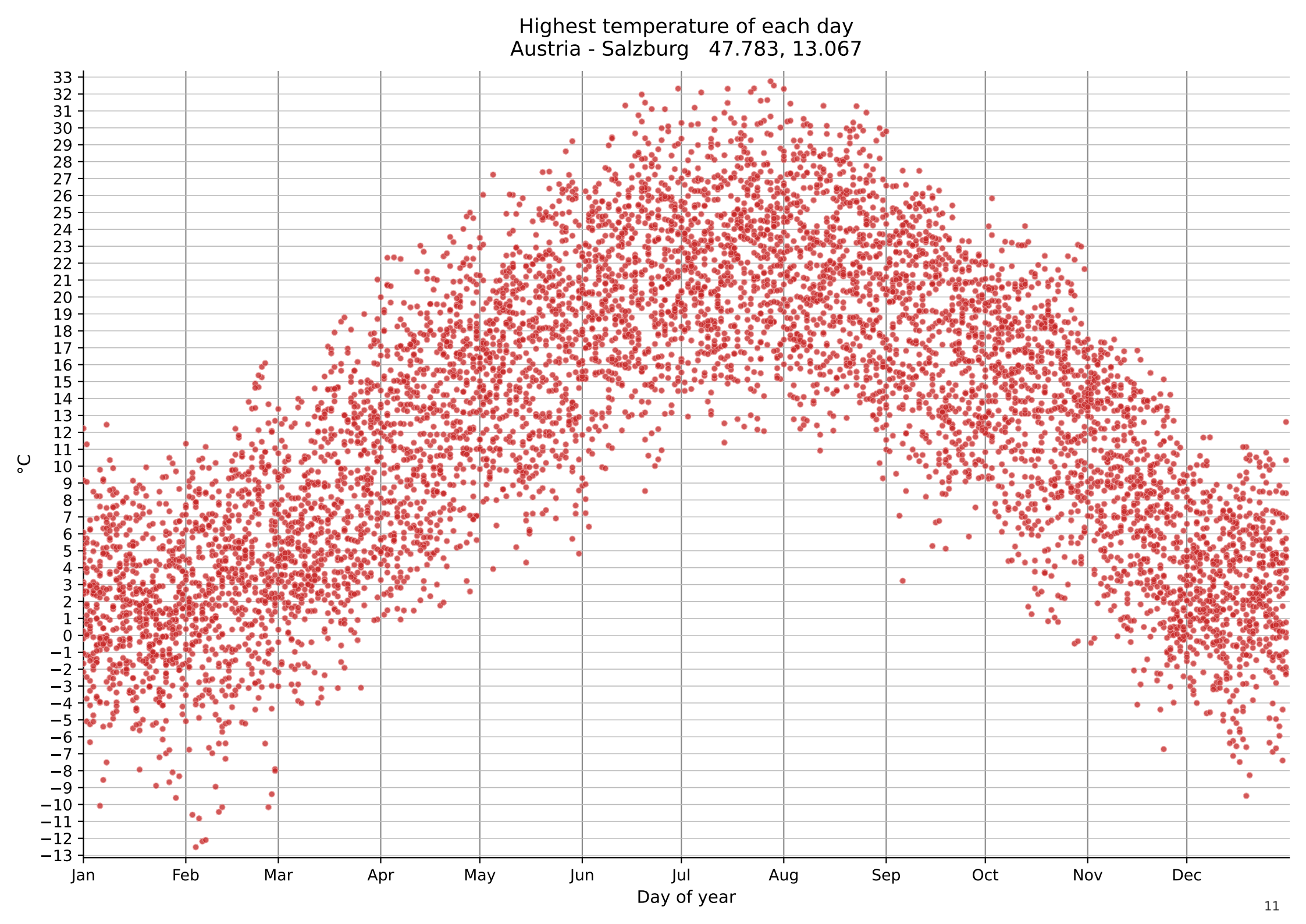

Yield distribution for each day — Wh / Wp of all PV together
Austria - Salzburg 47.783, 13.067
Wh / Wp
0
1
2
3
4
5
6
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

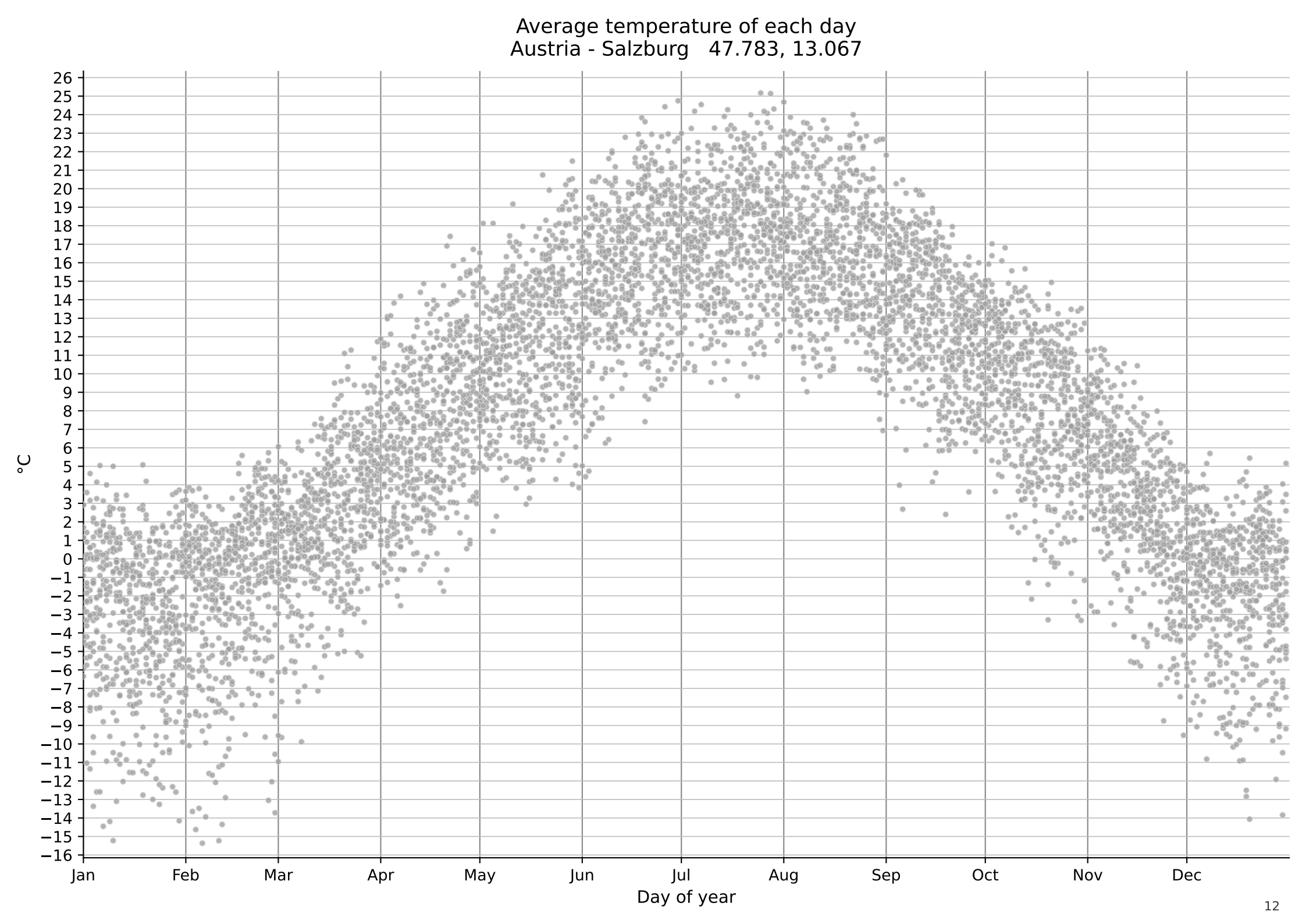

Yield distribution for each day — Wh / Wp of all PV together — 00:00–09:00
Austria - Salzburg 47.783, 13.067
Wh / Wp
0.0
0.2
0.4
0.6
0.8
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

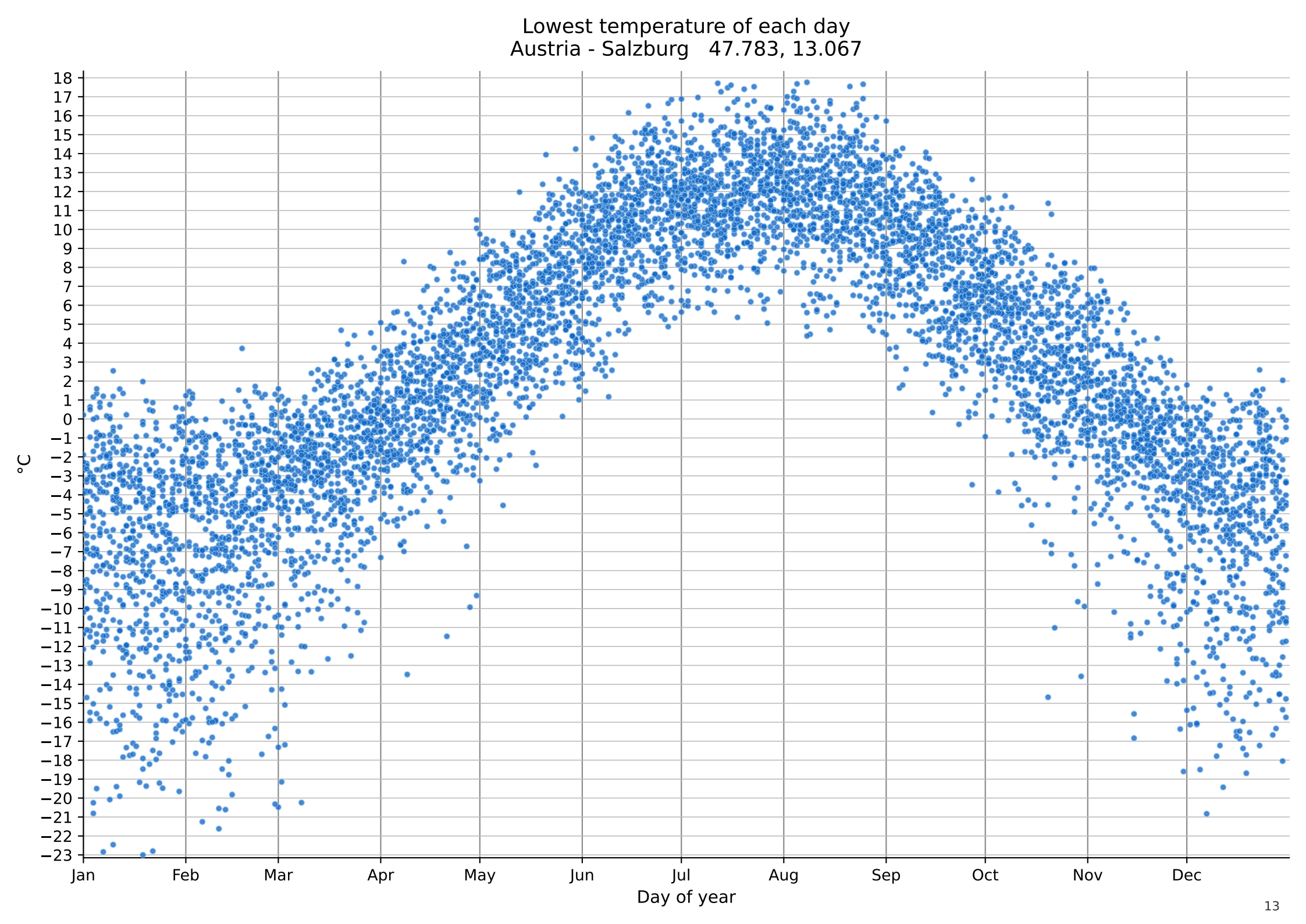

Yield distribution for each day — Wh / Wp of all PV together — 15:00–23:59
Austria - Salzburg 47.783, 13.067
Wh / Wp
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

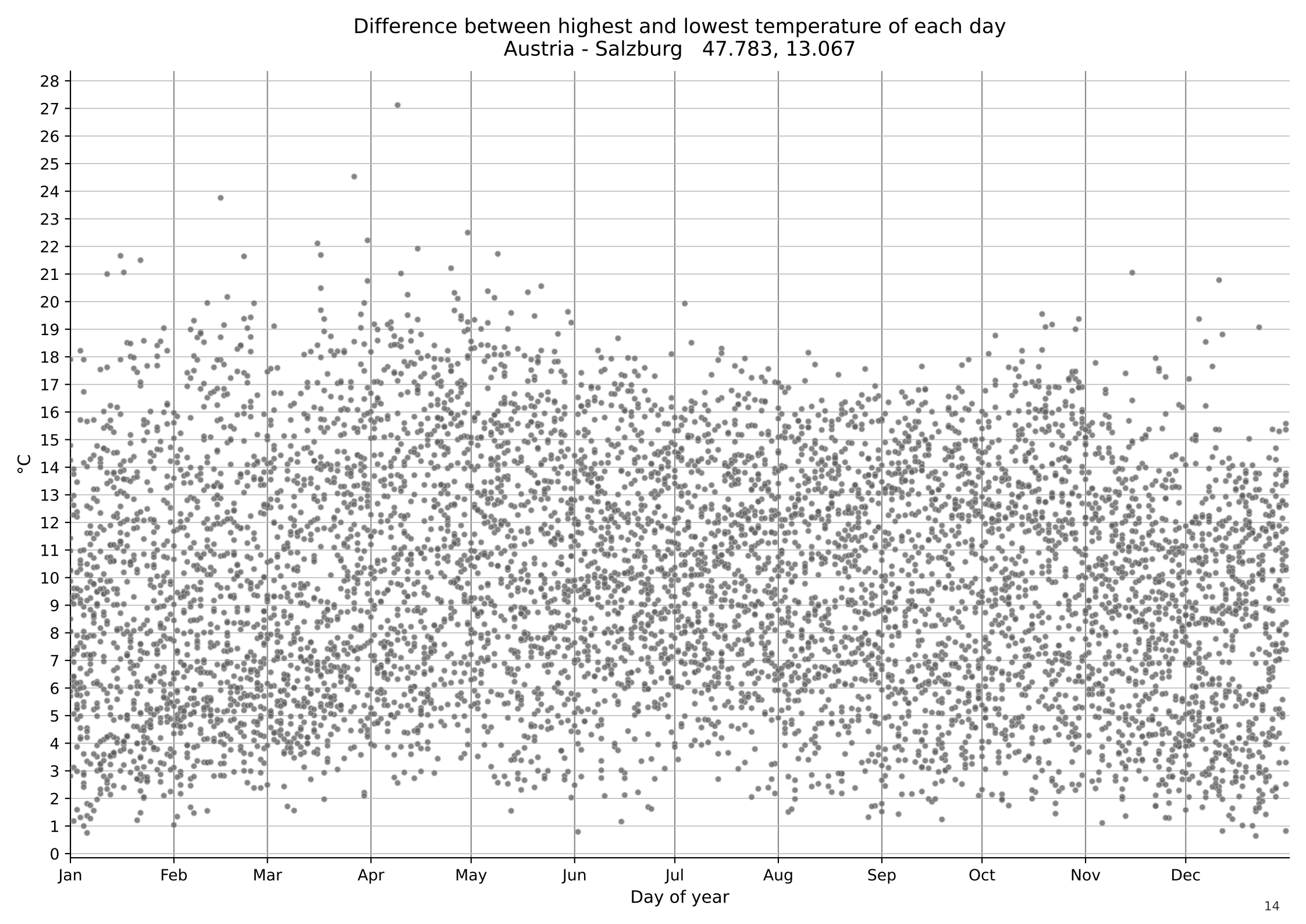

Share of the day’s yield in 09:00–15:00 winter time
Austria - Salzburg 47.783, 13.067
%
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Share of the day’s yield outside 09:00–15:00 winter time
Austria - Salzburg 47.783, 13.067
%
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Highest temperature of each day
Austria - Salzburg 47.783, 13.067
°C
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
−1
−2
−3
−4
−5
−6
−7
−8
−9
−10
−11
−12
−13
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Average temperature of each day
Austria - Salzburg 47.783, 13.067
°C
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
−1
−2
−3
−4
−5
−6
−7
−8
−9
−10
−11
−12
−13
−14
−15
−16
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Lowest temperature of each day
Austria - Salzburg 47.783, 13.067
°C
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
−1
−2
−3
−4
−5
−6
−7
−8
−9
−10
−11
−12
−13
−14
−15
−16
−17
−18
−19
−20
−21
−22
−23
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Difference between highest and lowest temperature of each day
Austria - Salzburg 47.783, 13.067
°C
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

Monthly and yearly specific yield (kWh/kWp = Wh/Wp)
Austria - Salzburg 47.783, 13.067

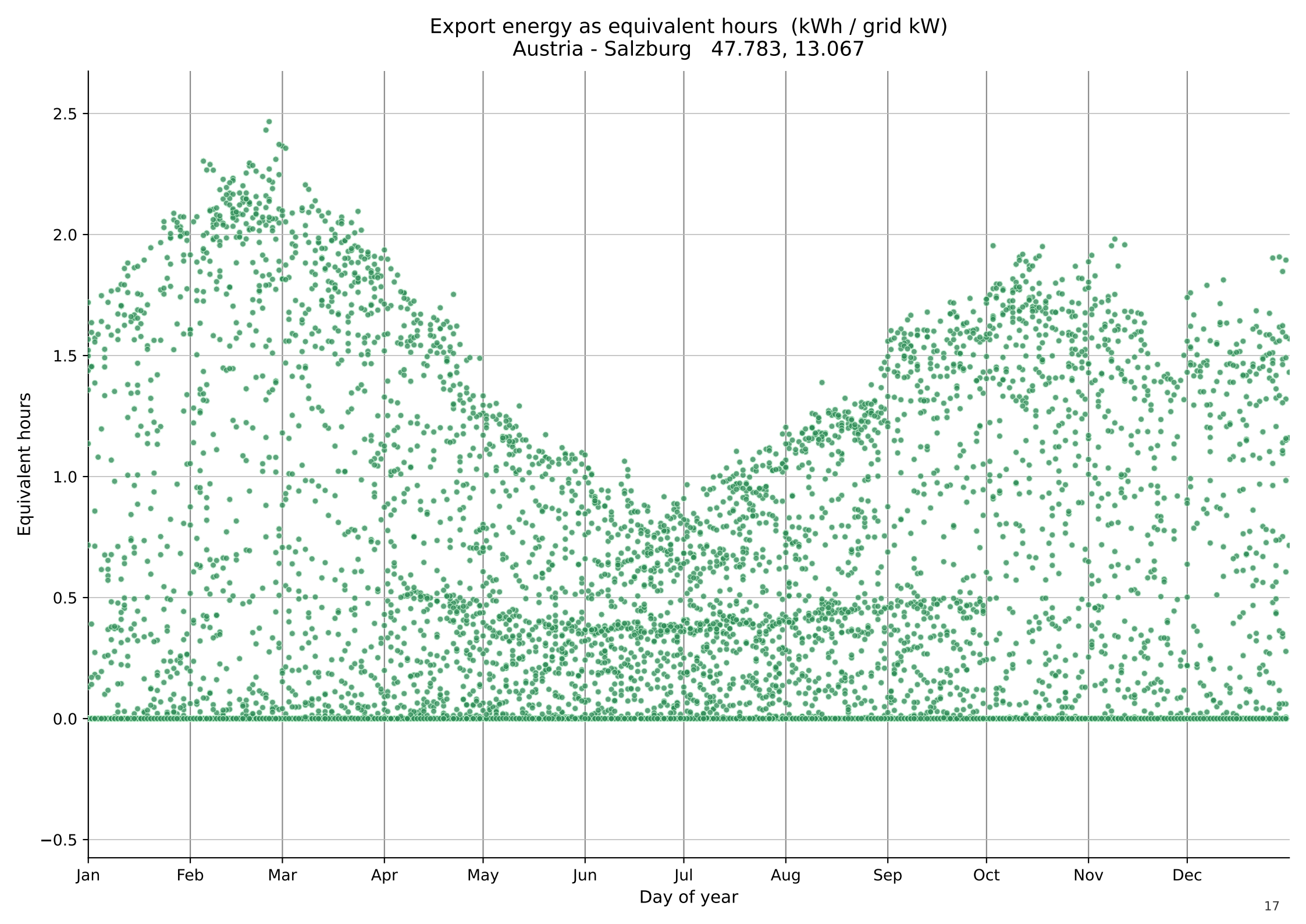
Month / year		Terrace railing 90°/-12° 3,000 Wp	Above windows to top to roof 60°/-12° 490 Wp	Wall to neighbor terrace 90°/60° 660 Wp	All together
January	Maximum	98.49	102.11	54.21	91.87
	average	53.85	57.35	32.71	50.90
	minimum	29.81	33.34	20.98	28.82
February	Maximum	96.47	107.05	64.70	92.52
	average	73.95	82.81	49.05	71.04
	minimum	49.63	56.93	32.92	47.84
March	Maximum	123.09	150.56	94.08	121.72
	average	76.42	95.70	61.37	76.31
	minimum	48.32	62.82	41.55	49.37
April	Maximum	102.33	143.22	92.30	105.47
	average	73.21	103.41	68.44	76.02
	minimum	52.16	73.15	46.52	53.74
May	Maximum	74.57	121.29	75.73	80.27
	average	61.94	98.51	64.72	66.70
	minimum	41.32	63.62	40.86	43.88
June	Maximum	71.26	123.96	80.72	78.99
	average	58.59	99.46	66.13	64.61
	minimum	45.48	73.86	53.42	50.46
July	Maximum	75.84	128.62	85.81	83.43
	average	63.19	105.26	70.30	69.29
	minimum	53.13	87.03	56.83	57.80
August	Maximum	81.95	123.32	81.55	86.77
	average	70.05	104.35	69.09	73.95
	minimum	52.68	77.02	51.51	55.37
September	Maximum	95.70	124.26	78.34	96.25
	average	73.84	96.28	61.84	74.58
	minimum	54.98	73.40	44.55	56.26
October	Maximum	107.44	122.93	81.67	105.17
	average	78.21	90.76	55.00	76.00
	minimum	49.10	57.81	33.90	47.71
November	Maximum	100.84	106.51	61.28	95.22
	average	57.87	62.66	36.80	55.08
	minimum	28.81	32.92	21.29	28.10
December	Maximum	99.51	101.12	56.57	92.87
	average	55.87	58.07	32.50	52.41
	minimum	34.89	37.44	19.61	32.98
All years	Maximum	895.8	1,163.0	736.0	902.0
	average	797.0	1,054.6	668.0	806.9
	minimum	731.8	970.3	611.0	740.8

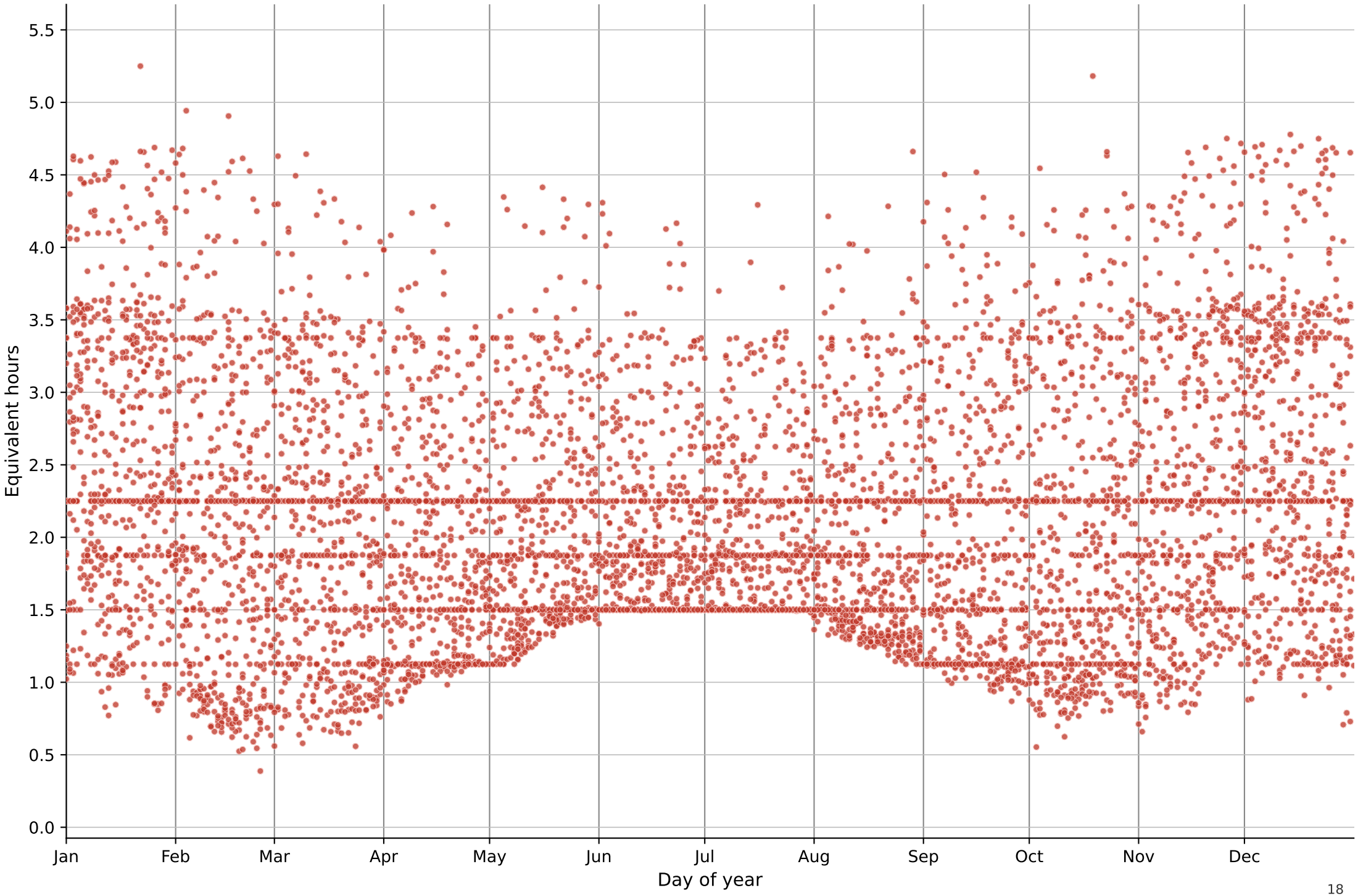
Highest combined yield hour: 2008-12-28 11:10 UTC 3,374.6 W (0.813 W/Wp) of 4,150 Wp installed. Use this hour to size battery charge power.

Monthly and yearly total yield (kWh)
Austria - Salzburg 47.783, 13.067

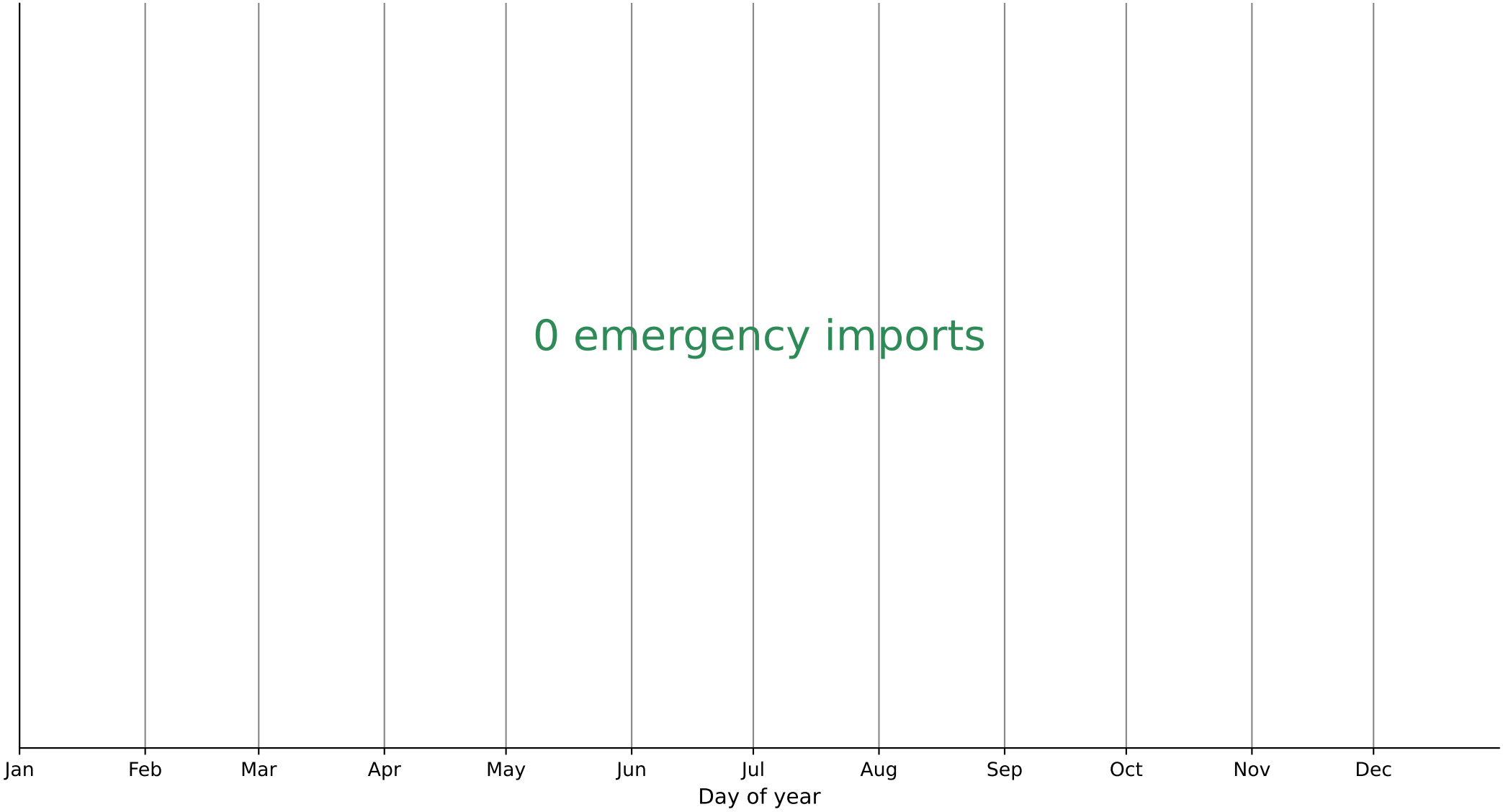
Month / year		Terrace railing 90°/-12° 3,000 Wp	Above windows to top to roof 60°/-12° 490 Wp	Wall to neighbor terrace 90°/60° 660 Wp	All together
January	Maximum	295.46	50.03	35.78	381.27
	average	161.56	28.10	21.59	211.25
	minimum	89.44	16.33	13.85	119.62
February	Maximum	289.41	52.46	42.70	383.95
	average	221.85	40.57	32.38	294.80
	minimum	148.89	27.90	21.73	198.52
March	Maximum	369.28	73.77	62.09	505.14
	average	229.27	46.89	40.50	316.67
	minimum	144.96	30.78	27.43	204.88
April	Maximum	306.99	70.18	60.92	437.71
	average	219.62	50.67	45.17	315.46
	minimum	156.47	35.84	30.70	223.01
May	Maximum	223.70	59.43	49.98	333.12
	average	185.83	48.27	42.71	276.82
	minimum	123.96	31.17	26.97	182.10
June	Maximum	213.78	60.74	53.27	327.79
	average	175.76	48.73	43.64	268.14
	minimum	136.43	36.19	35.26	209.43
July	Maximum	227.52	63.02	56.63	346.22
	average	189.57	51.58	46.40	287.55
	minimum	159.40	42.65	37.51	239.88
August	Maximum	245.86	60.43	53.83	360.11
	average	210.16	51.13	45.60	306.90
	minimum	158.04	37.74	33.99	229.78
September	Maximum	287.11	60.89	51.70	399.42
	average	221.53	47.18	40.82	309.53
	minimum	164.95	35.97	29.40	233.48
October	Maximum	322.31	60.24	53.90	436.44
	average	234.63	44.47	36.30	315.40
	minimum	147.29	28.33	22.37	197.99
November	Maximum	302.52	52.19	40.44	395.15
	average	173.61	30.70	24.29	228.60
	minimum	86.44	16.13	14.05	116.62
December	Maximum	298.54	49.55	37.34	385.42
	average	167.61	28.46	21.45	217.52
	minimum	104.66	18.34	12.94	136.86
All years	Maximum	2,687.5	569.9	485.7	3,743.1
	average	2,391.0	516.8	440.9	3,348.6
	minimum	2,195.4	475.4	403.3	3,074.1

Highest combined yield hour: 2008-12-28 11:10 UTC 3,374.6 W (0.813 W/Wp) of 4,150 Wp installed. Use this hour to size battery charge power.


Export energy as equivalent hours (kWh / grid kW)
Austria - Salzburg 47.783, 13.067
Equivalent hours
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Import energy as equivalent hours (kWh / grid kW)
Austria - Salzburg 47.783, 13.067
Equivalent hours
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

Emergency import hours: 0 days with an emergency: 0
Austria - Salzburg 47.783, 13.067



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 - Salzburg 47.783, 13.067

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Export to grid													
month Maximum	120	140	183	116	69	66	71	85	106	151	119	117	947
month average	53	94	94	68	47	43	49	63	69	88	53	53	772
month minimum	18	46	44	25	17	28	35	31	43	38	17	18	650
day Maximum	8.4	9.9	9.5	7.7	5.3	4.4	4.7	5.9	6.9	7.8	7.9	7.6	9.9
day average	1.7	3.3	3.0	2.3	1.5	1.4	1.6	2.0	2.3	2.8	1.8	1.7	2.1
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
Import from grid													
month Maximum	374	285	316	281	310	282	275	283	278	315	358	353	3,237
month average	316	231	252	228	254	242	244	243	234	247	281	309	3,081
month minimum	218	181	147	161	213	203	207	217	183	192	181	208	2,861
day Maximum	21.0	19.8	18.6	17.1	17.7	17.2	17.2	18.6	18.1	20.7	19.0	19.1	21.0
day average	10.2	8.2	8.1	7.6	8.2	8.1	7.9	7.8	7.8	8.0	9.4	10.0	8.4
day minimum	3.1	1.6	2.2	3.4	4.5	5.6	5.9	4.5	3.5	2.2	2.6	2.8	1.6
Total energy used for house													
month Maximum	434	406	434	420	434	420	434	434	420	434	420	434	5,124
month average	434	395	434	420	434	420	434	434	420	434	420	434	5,113
month minimum	434	392	434	420	434	420	434	434	420	434	420	434	5,110
day Maximum	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
day average	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
day minimum	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0

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 - Salzburg 47.783, 13.067

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Export													
month Maximum	7	9	12	6	4	4	4	4	5	9	7	7	57
month average	3	6	6	4	3	3	3	4	3	5	3	3	46
month minimum	1	3	3	1	1	2	2	2	2	2	1	1	39
day Maximum	0.6	0.8	0.8	0.4	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.5	0.8
day average	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	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
Import													
month Maximum	93	69	75	51	55	49	48	50	50	76	88	86	676
month average	76	55	60	39	44	41	41	42	41	59	68	75	641
month minimum	52	43	35	27	36	32	33	37	30	45	43	49	584
day Maximum	5.4	5.1	4.9	3.8	3.9	3.7	3.8	4.0	4.1	5.3	5.0	5.1	5.4
day average	2.5	2.0	1.9	1.3	1.4	1.4	1.3	1.3	1.4	1.9	2.3	2.4	1.8
day minimum	0.7	0.3	0.5	0.4	0.6	0.7	0.7	0.5	0.4	0.5	0.6	0.6	0.3
Peak grid fee													
month Maximum	9	9	9	9	9	9	9	9	9	9	9	9	114
month average	9	9	9	9	9	9	9	9	9	9	9	9	114
month minimum	9	9	9	9	9	9	9	9	9	9	9	9	114
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	102	78	85	60	65	59	57	59	60	85	98	95	790
month average	86	65	69	49	53	51	51	51	51	68	77	85	755
month minimum	61	52	44	36	45	42	43	46	40	54	52	58	698
day Maximum	5.4	5.1	4.9	3.8	3.9	3.7	3.8	4.0	4.1	5.3	5.0	5.1	5.4
day average	2.5	2.0	1.9	1.3	1.4	1.4	1.3	1.3	1.4	1.9	2.3	2.4	1.8
day minimum	0.7	0.3	0.5	0.4	0.6	0.7	0.7	0.5	0.4	0.5	0.6	0.6	0.3
Balance													
month Maximum	-54	-44	-32	-30	-43	-38	-38	-42	-35	-45	-45	-51	-646
month average	-83	-59	-63	-45	-50	-48	-47	-48	-47	-63	-74	-82	-709
month minimum	-101	-75	-82	-59	-64	-57	-55	-57	-57	-83	-97	-94	-751
day Maximum	-0.2	0.2	0.1	-0.3	-0.5	-0.6	-0.6	-0.4	-0.3	0.0	-0.1	-0.2	0.2
day average	-2.4	-1.8	-1.7	-1.2	-1.3	-1.3	-1.2	-1.2	-1.3	-1.7	-2.2	-2.3	-1.6
day minimum	-5.4	-5.1	-4.9	-3.8	-3.9	-3.7	-3.8	-4.0	-4.1	-5.3	-5.0	-5.1	-5.4

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 - Salzburg 47.783, 13.067

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Export total													
month Maximum	120	140	183	116	69	66	71	85	106	151	119	117	947
month average	53	94	94	68	47	43	49	63	69	88	53	53	772
month minimum	18	46	44	25	17	28	35	31	43	38	17	18	650
day Maximum	8.4	9.9	9.5	7.7	5.3	4.4	4.7	5.9	6.9	7.8	7.9	7.6	9.9
day average	1.7	3.3	3.0	2.3	1.5	1.4	1.6	2.0	2.3	2.8	1.8	1.7	2.1
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
Export during high price hours													
month Maximum	0	4	7	7	6	8	9	6	5	0	0	0	52
month average	0	1	3	4	4	6	7	5	2	0	0	0	32
month minimum	0	0	1	2	1	4	4	2	1	0	0	0	25
day Maximum	0.0	0.8	0.7	0.7	0.6	0.6	0.7	0.7	0.6	0.1	0.0	0.0	0.8
day average	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	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
Export during medium price hours													
month Maximum	39	52	60	41	25	27	29	33	38	52	27	26	341
month average	19	36	34	27	20	20	22	26	26	26	13	13	283
month minimum	9	20	17	15	10	15	17	17	15	10	6	3	248
day Maximum	3.3	4.3	3.5	2.5	1.5	1.3	1.4	1.8	2.1	2.8	3.0	2.3	4.3
day average	0.6	1.3	1.1	0.9	0.6	0.7	0.7	0.8	0.9	0.8	0.4	0.4	0.8
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
Export during low price hours													
month Maximum	81	89	117	69	40	31	34	48	66	99	92	93	581
month average	34	57	57	37	23	17	20	32	40	62	39	39	457
month minimum	9	25	24	8	6	7	12	12	25	27	10	13	373
day Maximum	5.7	6.1	5.7	5.1	3.6	2.7	2.9	3.8	5.0	5.6	5.6	5.9	6.1
day average	1.1	2.0	1.8	1.2	0.7	0.6	0.7	1.0	1.3	2.0	1.3	1.3	1.3
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 - Salzburg 47.783, 13.067

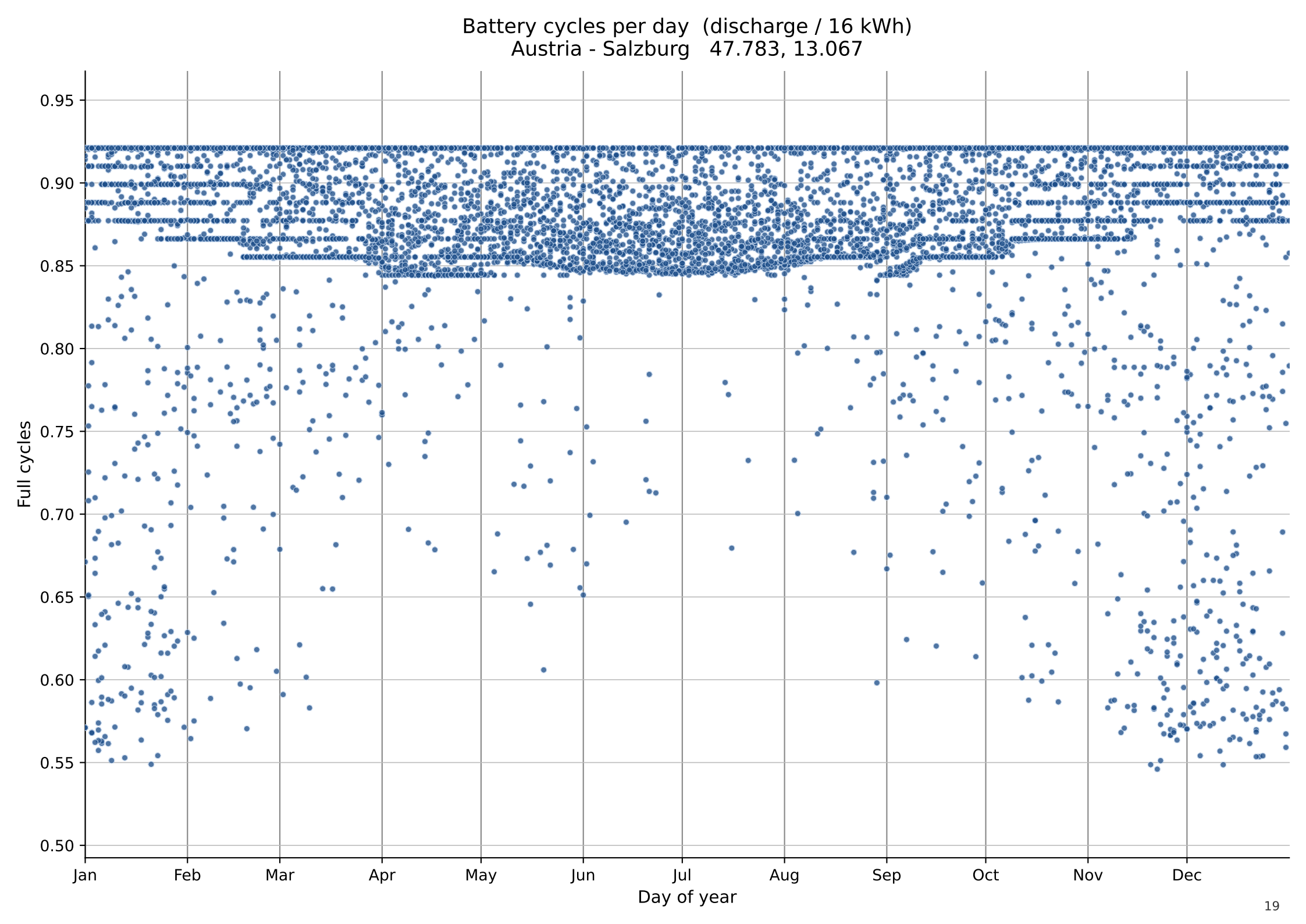
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Heating													
month Maximum	0	0	0	0	0	0	0	0	0	0	0	0	0
month average	0	0	0	0	0	0	0	0	0	0	0	0	0
month minimum	0	0	0	0	0	0	0	0	0	0	0	0	0
day Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
day average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
Cooling													
month Maximum	0	0	0	0	0	0	0	0	0	0	0	0	0
month average	0	0	0	0	0	0	0	0	0	0	0	0	0
month minimum	0	0	0	0	0	0	0	0	0	0	0	0	0
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
DHW													
month Maximum	0	0	0	0	0	0	0	0	0	0	0	0	0
month average	0	0	0	0	0	0	0	0	0	0	0	0	0
month minimum	0	0	0	0	0	0	0	0	0	0	0	0	0
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
Direct electric													
month Maximum	0	0	0	0	0	0	0	0	0	0	0	0	0
month average	0	0	0	0	0	0	0	0	0	0	0	0	0
month minimum	0	0	0	0	0	0	0	0	0	0	0	0	0
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

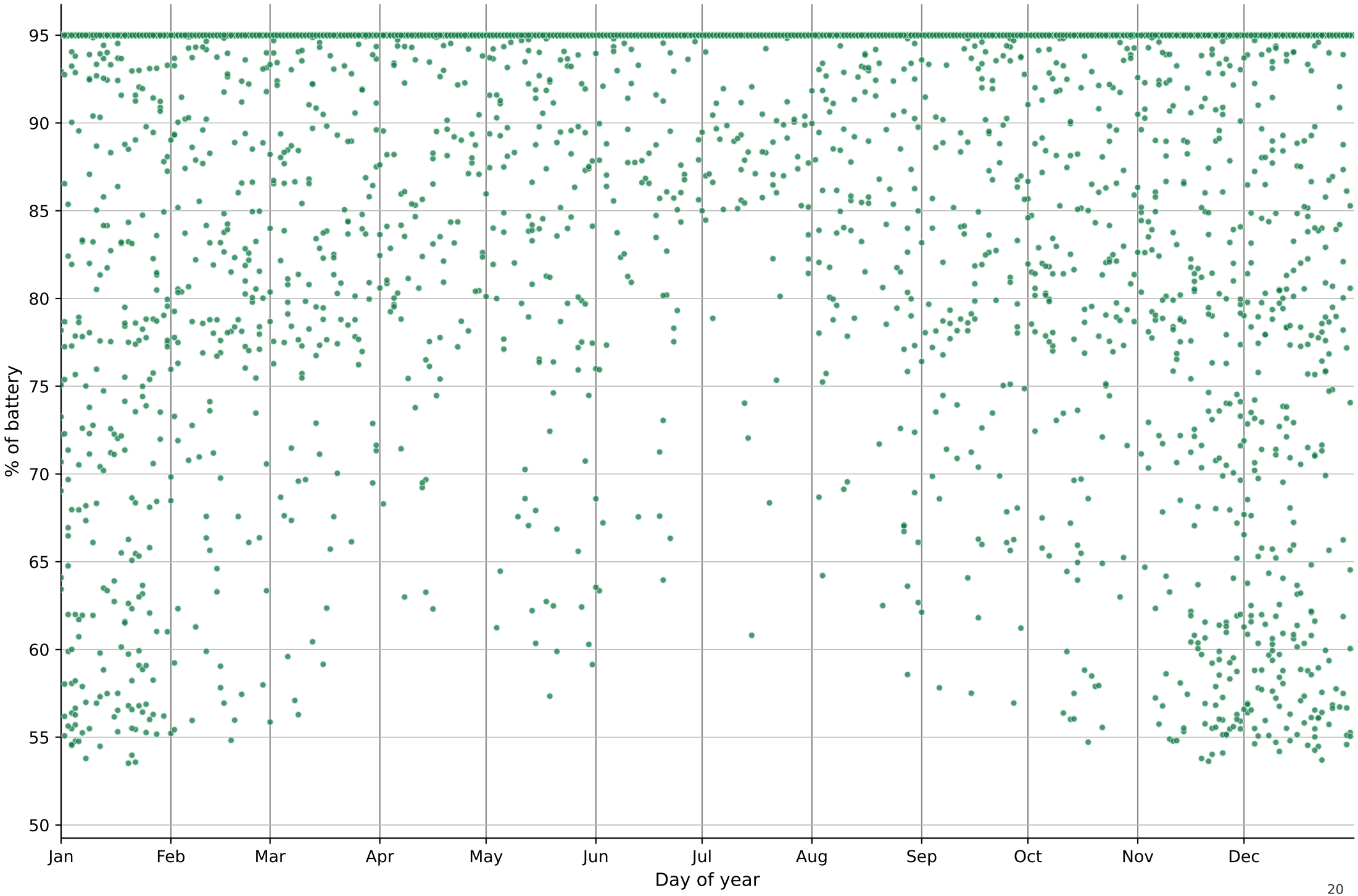
Heating, cooling and DHW are electricity. Direct electric is the part the heat pump could not cover.

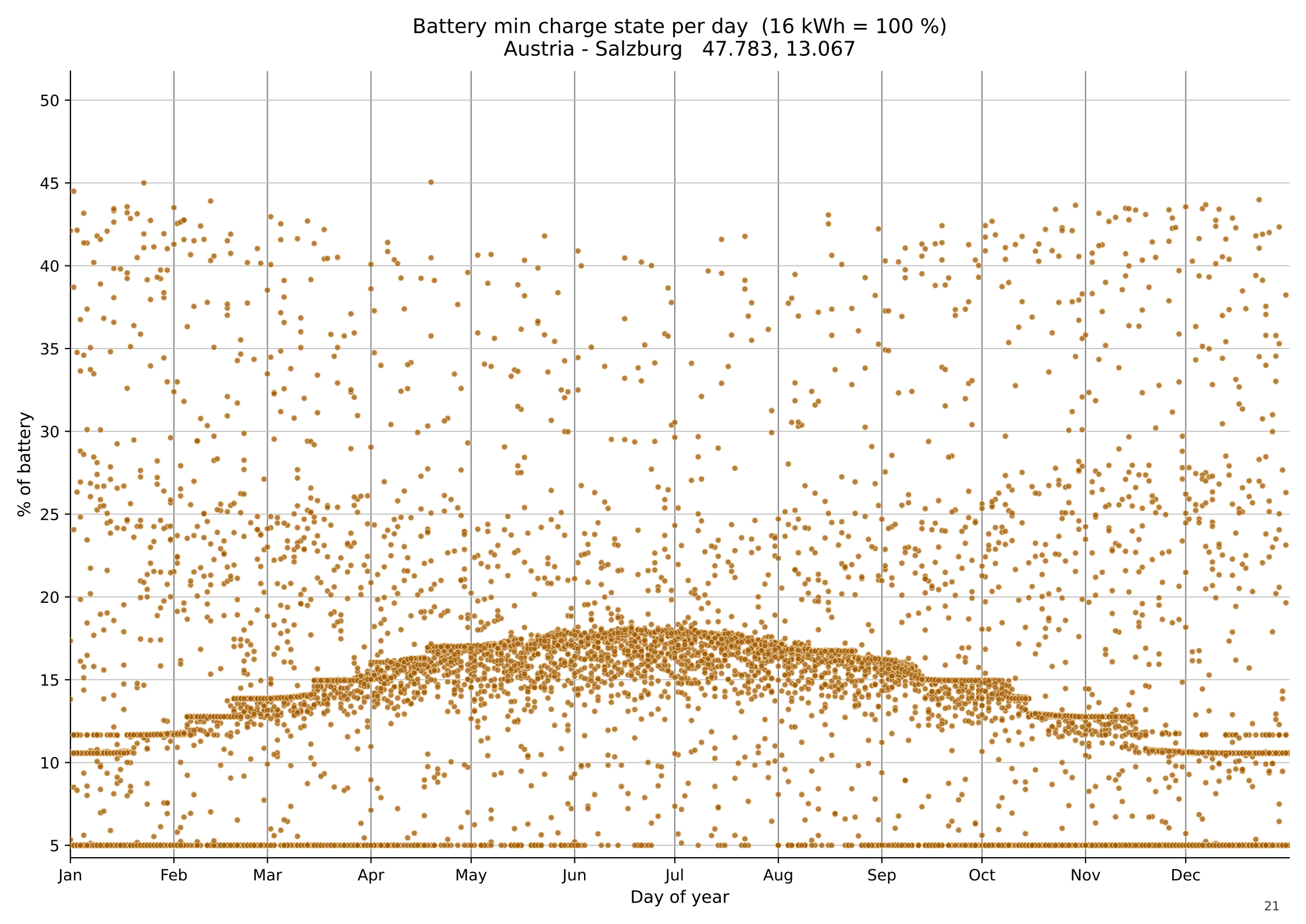
Battery
Austria - Salzburg 47.783, 13.067

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Wasted													
month Maximum	0	0	0	29	14	14	14	21	29	0	0	0	98
month average	0	0	0	15	9	7	8	12	16	0	0	0	67
month minimum	0	0	0	5	1	2	3	2	3	0	0	0	46
day Maximum	0.0	0.0	0.0	4.9	3.2	2.6	2.7	3.6	4.9	0.0	0.0	0.0	4.9
day average	0.0	0.0	0.0	0.5	0.3	0.2	0.3	0.4	0.5	0.0	0.0	0.0	0.2
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	28	25	28	27	27	27	27	27	27	28	27	28	321
month average	26	25	27	26	27	26	27	27	26	27	26	26	316
month minimum	24	23	26	26	26	26	27	27	26	26	23	24	310
day Maximum	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
day average	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.9
day minimum	0.5	0.6	0.6	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5
Charge C													
month Maximum	0	0	0	0	0	0	0	0	0	0	0	0	2
month average	0	0	0	0	0	0	0	0	0	0	0	0	2
month minimum	0	0	0	0	0	0	0	0	0	0	0	0	2
day Maximum	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
day average	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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
Discharge C													
month Maximum	0	0	0	0	0	0	0	0	0	0	0	0	1
month average	0	0	0	0	0	0	0	0	0	0	0	0	1
month minimum	0	0	0	0	0	0	0	0	0	0	0	0	1
day Maximum	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
day average	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
day minimum	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Wasted = PV left when the export price is negative and the battery is full. Full cycles = discharge kWh / 16 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 / 16 kWh)
Austria - Salzburg 47.783, 13.067
Full cycles
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Battery max charge state per day (16 kWh = 100 %)
Austria - Salzburg 47.783, 13.067
% of battery
95
90
85
80
75
70
65
60
55
50
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Battery min charge state per day (16 kWh = 100 %)
Austria - Salzburg 47.783, 13.067
% of battery
50
45
40
35
30
25
20
15
10
5
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year