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	10,740	—	front	—	yes
Total counted			10,740				

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 2009-06-13 12:10 local (11:10 UTC) 8,369 W 0.779 W/Wp of 10,740 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.

Click here to work on this simulation. If the click does nothing, copy the address below and paste it in the browser. PEGE energy sim server has to run.

http://127.0.0.1:8765/form?name=Austria+-+Inning&simname=EWG+only+roof+-+remain+with+air+heat+pump&lat=48.182&lon=15.417&startyear=2005&endyear=2023&loss=14.0&raddatabase=auto&usehorizon=1&outdir=%2Fhome%2Ffounder%2Finternet%2

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 / 4,000 W
	Heat on / cool on / ground	21.0 °C / 26.0 °C / 10.0 °C
	Curve / flow min / max	1.0 / 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 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
	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	45.0 kWh C 0.5 5 / 95 / 50 %
	Nameplate	—
	Charge / discharge η	95 % / 90 %
Grid	Inverter / grid connection	12.0 kW / 12.0 kW
	Max export	12.0 kW
	Import cap Jan–Jun kW	Jan 10 Feb 9 Mar 8 Apr 6 May 4 Jun 4
	Import cap Jul–Dec kW	Jul 4 Aug 4 Sep 6 Oct 6 Nov 9 Dec 10
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 - Inning 48.182, 15.417

PV	2009-06-13 11:10	2020-05-24 11:10	2009-06-03 11:10	2013-05-13 11:10	2009-06-13 10:10	2013-05-28 11:10	2012-05-18 11:10	2020-05-27 11:10	2021-06-02 11:10	2016-05-15 12:10
Garage roof	8,369	8,302	8,251	8,243	8,237	8,224	8,219	8,209	8,197	8,180
Watt at record	8,369	8,302	8,251	8,243	8,237	8,224	8,219	8,209	8,197	8,180
Percent of installed peak	77.9	77.3	76.8	76.8	76.7	76.6	76.5	76.4	76.3	76.2

Values are watts at that hour. Date and time are UTC. Record 8,369 W (77.9 % of 10,740 Wp).

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

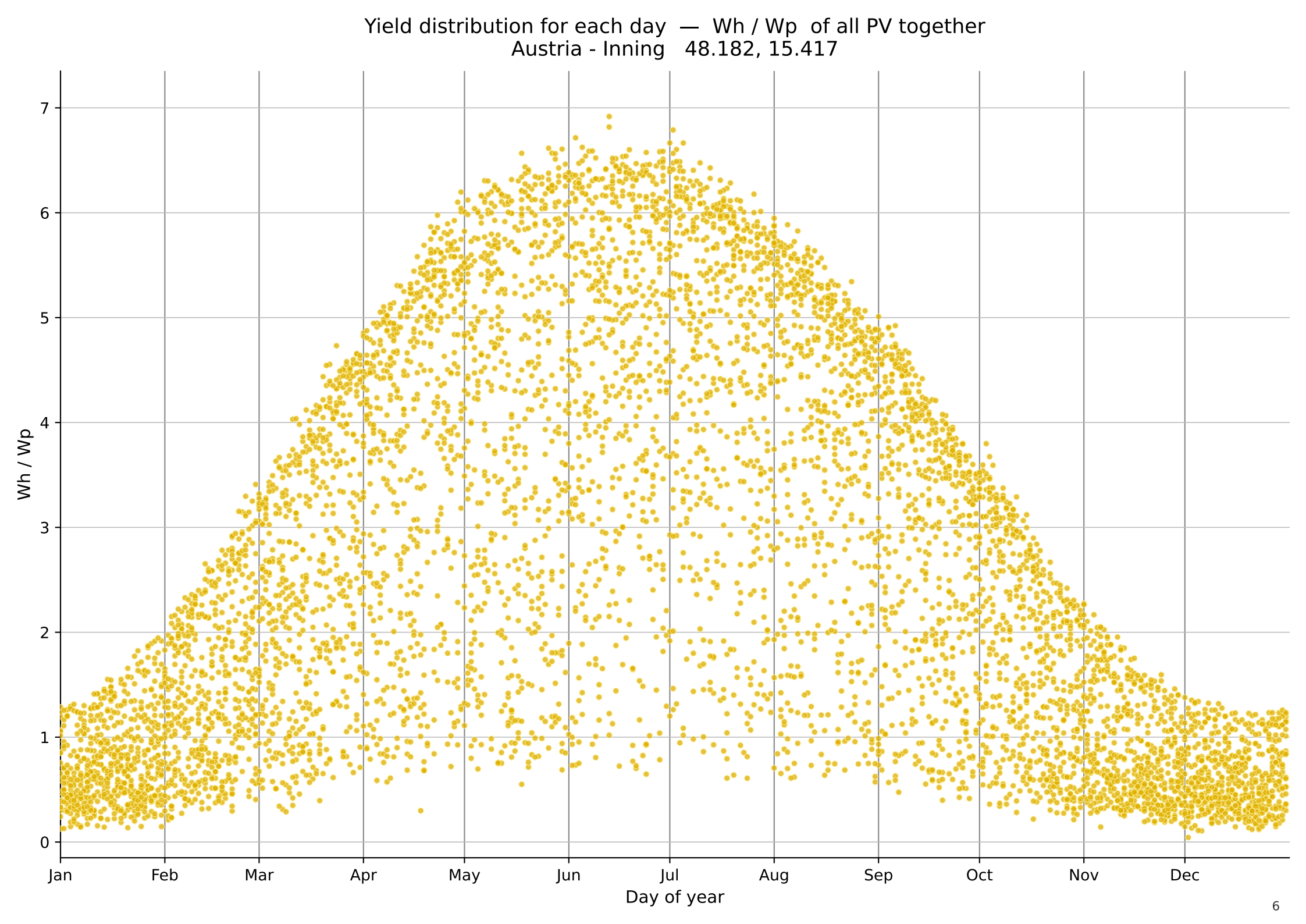
Of the record	Hours	Watts
98 %	8	8,202 W
96 %	33	8,034 W
94 %	112	7,867 W
92 %	320	7,700 W
90 %	671	7,532 W

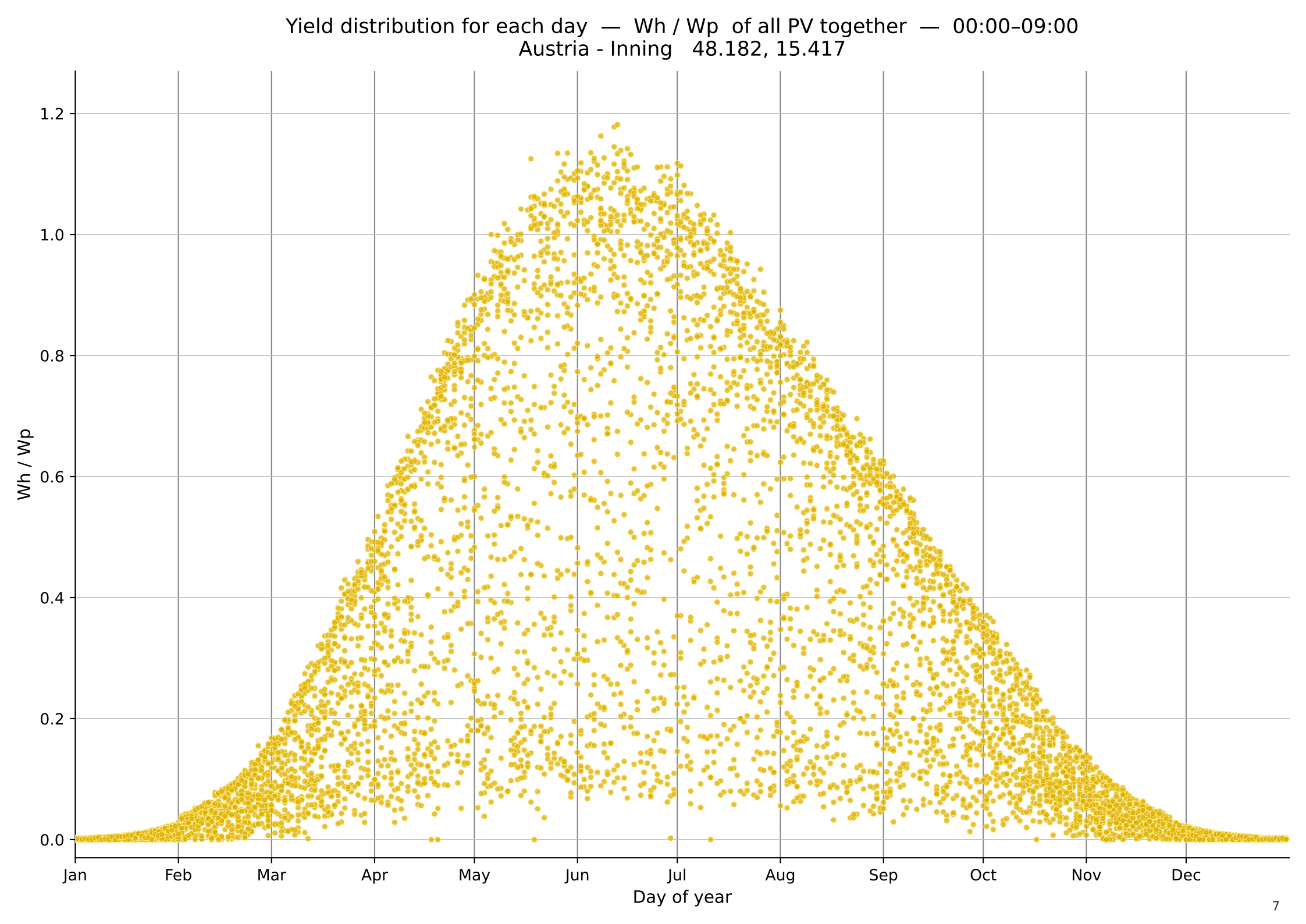
Record hour = 8,369 W combined.

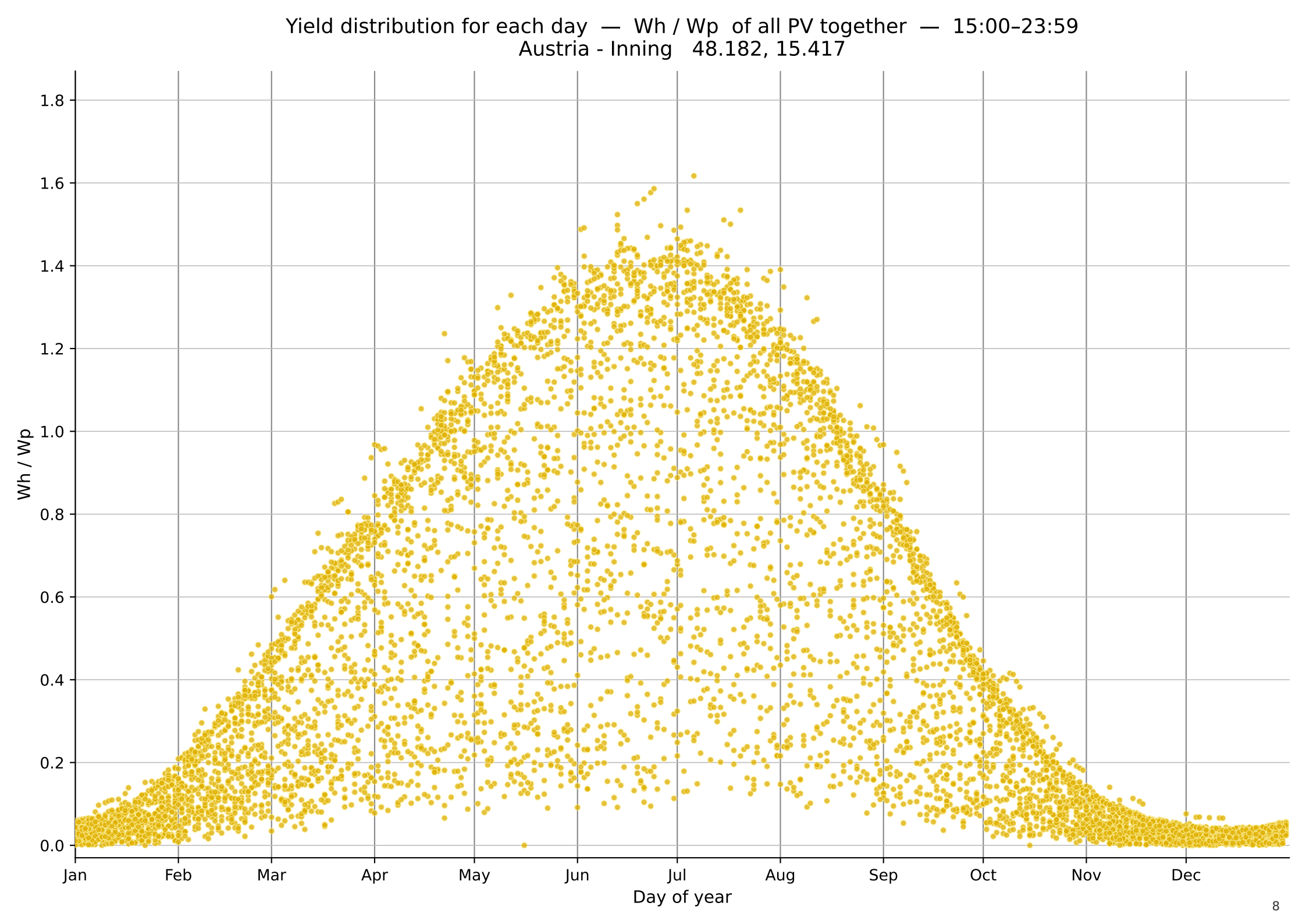
Records of each photovoltaic field
Austria - Inning 48.182, 15.417

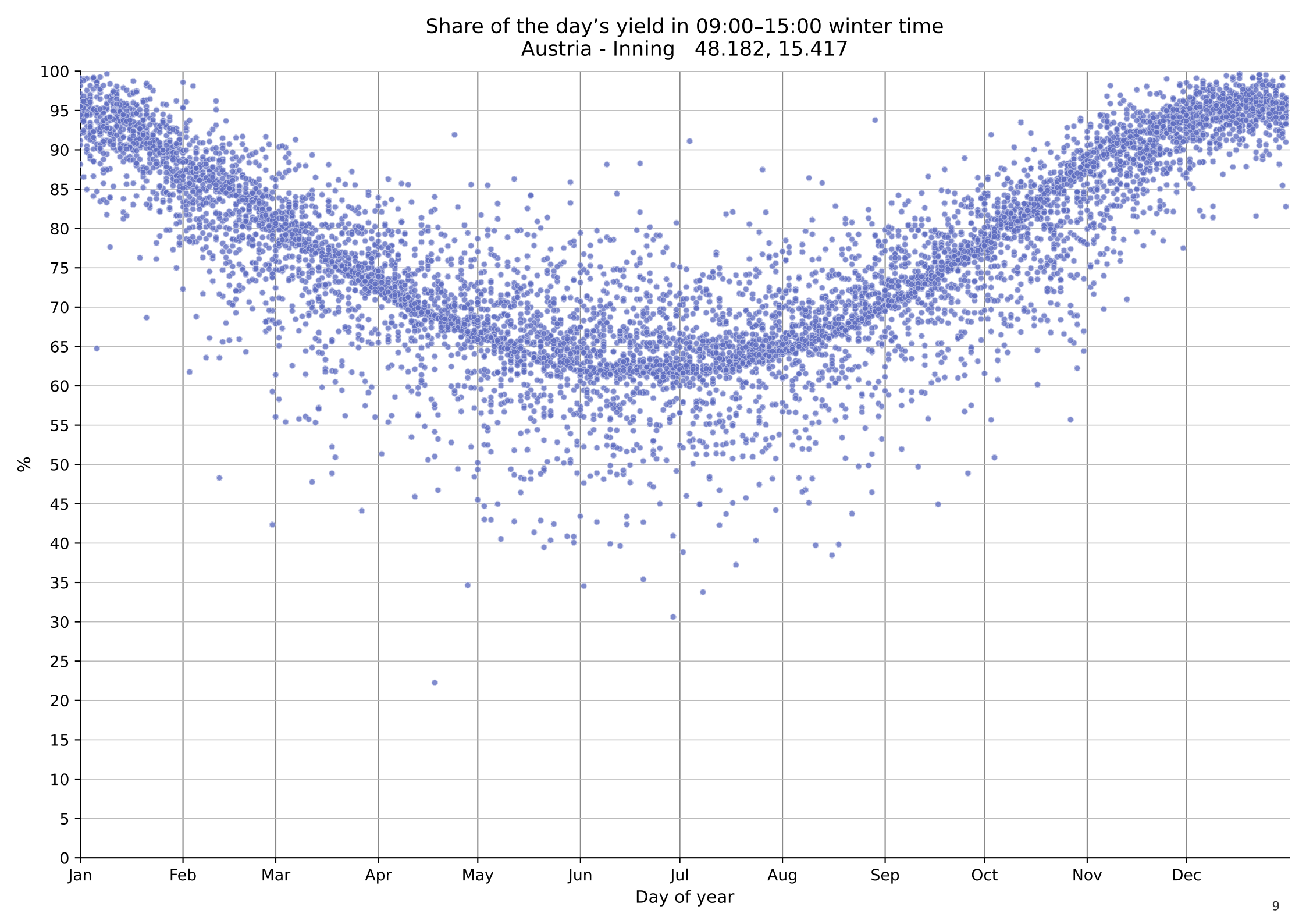
PV	Date	Watts	%	h ≥98%	h ≥96%	h ≥94%	h ≥92%	h ≥90%
Garage roof	2009-06-13 11:10	8,369	77.9	8	33	112	320	671

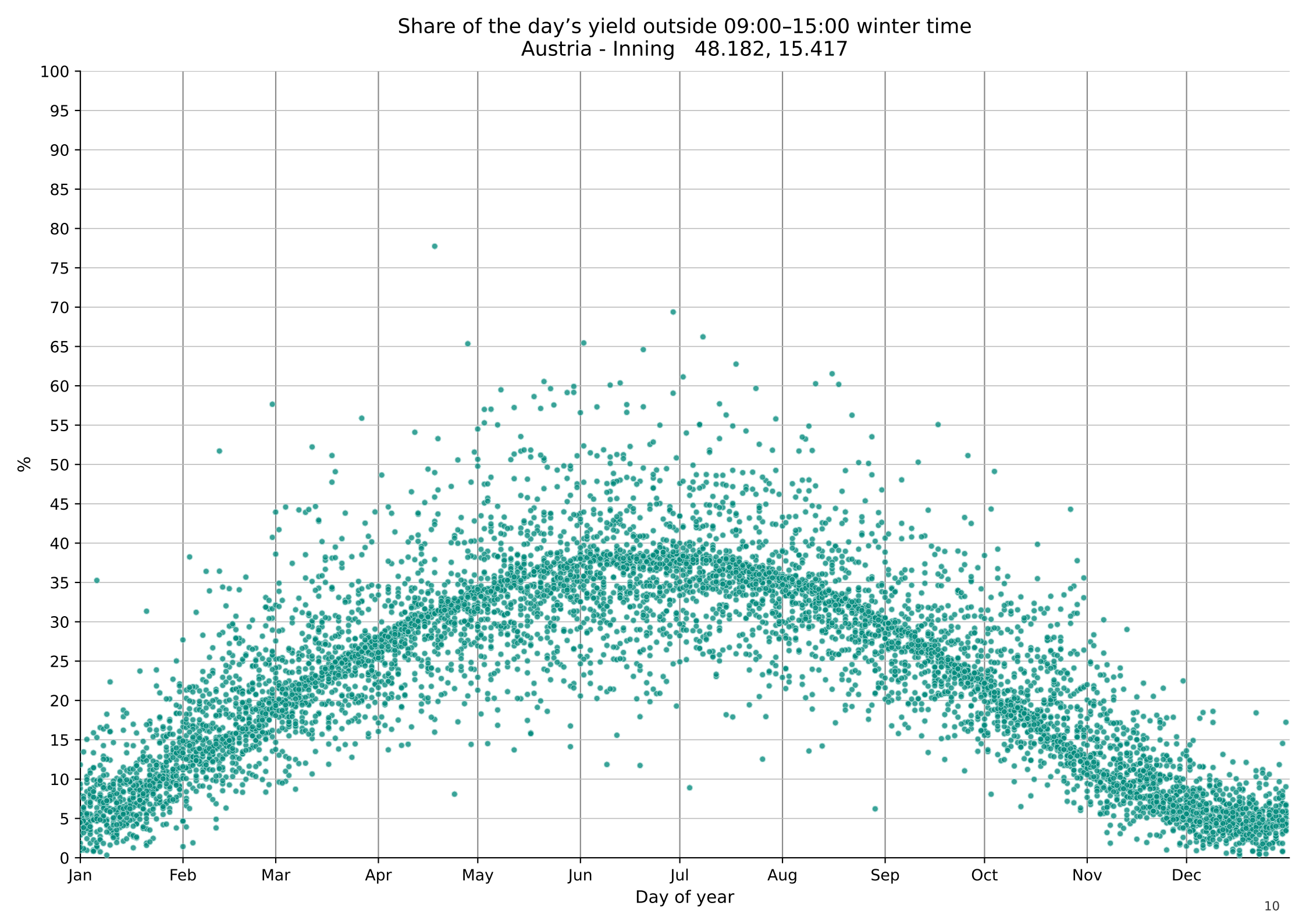
Watts is the highest hour of that field. % is of its own Wp. Hours are the count of hours at or above that share of its own record. Use this to size the MPPT or the inverter for that field.

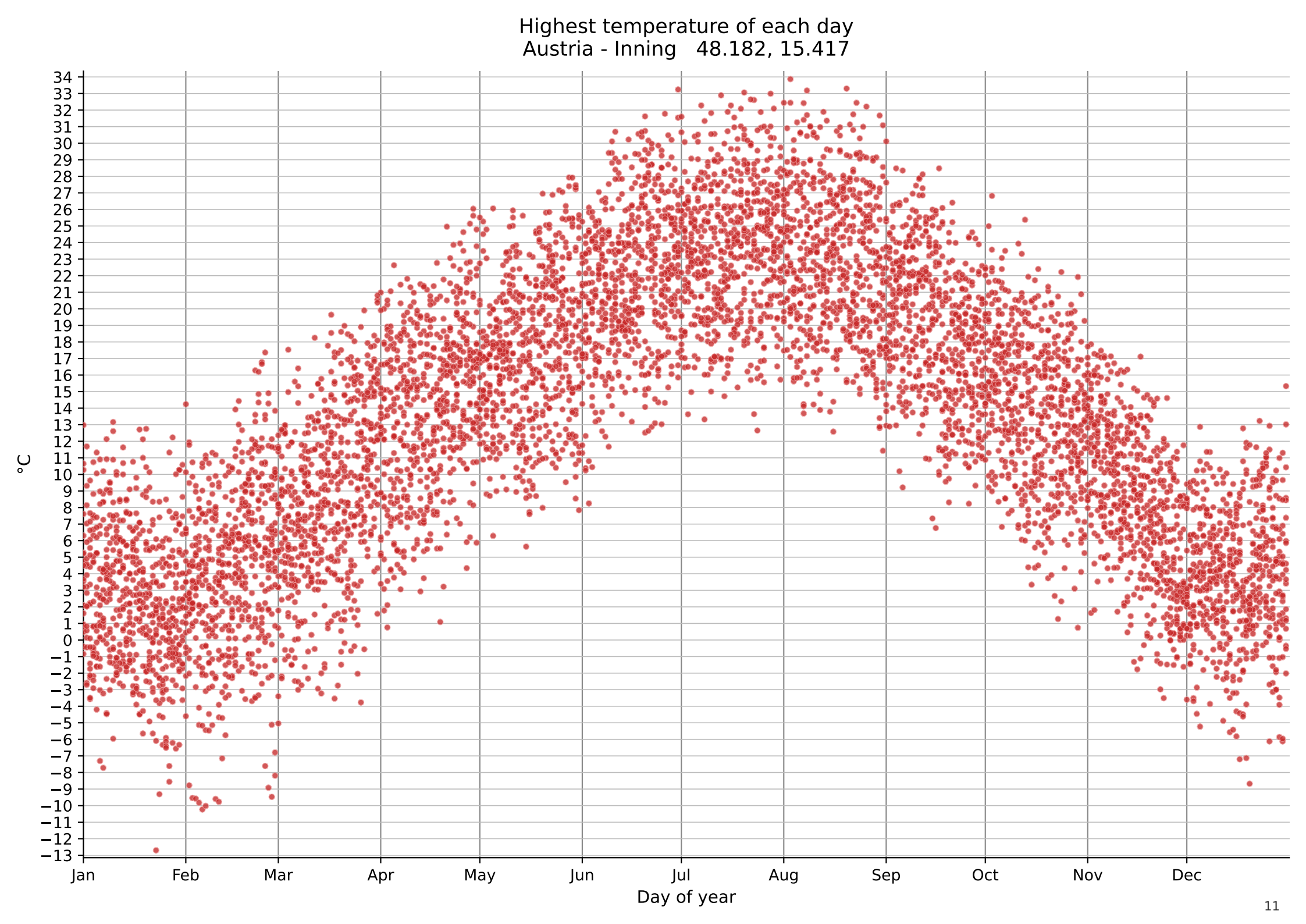

Yield distribution for each day — Wh / Wp of all PV together
Austria - Inning 48.182, 15.417
Wh / Wp
0
1
2
3
4
5
6
7
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

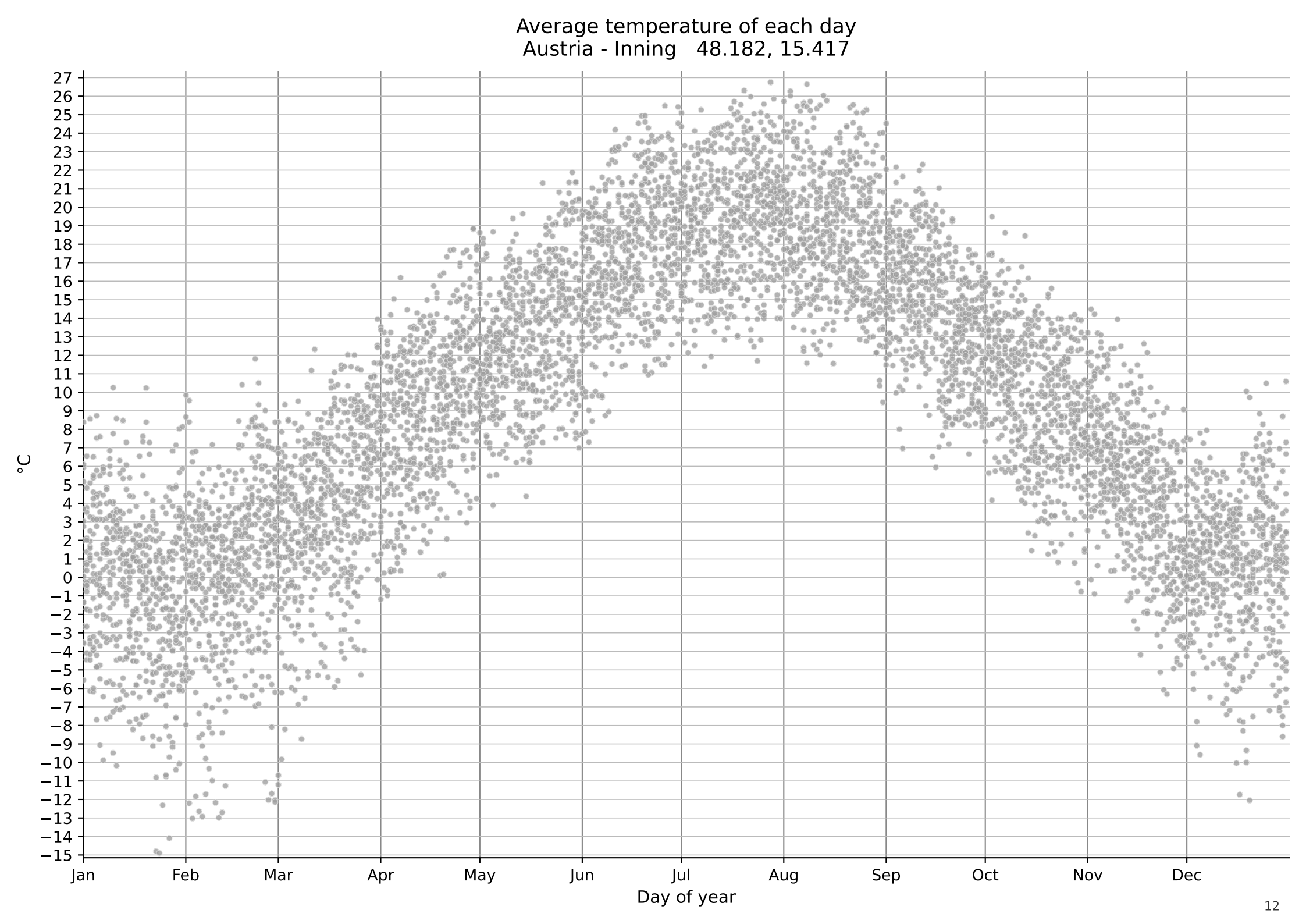

Yield distribution for each day — Wh / Wp of all PV together — 00:00–09:00
Austria - Inning 48.182, 15.417
Wh / Wp
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

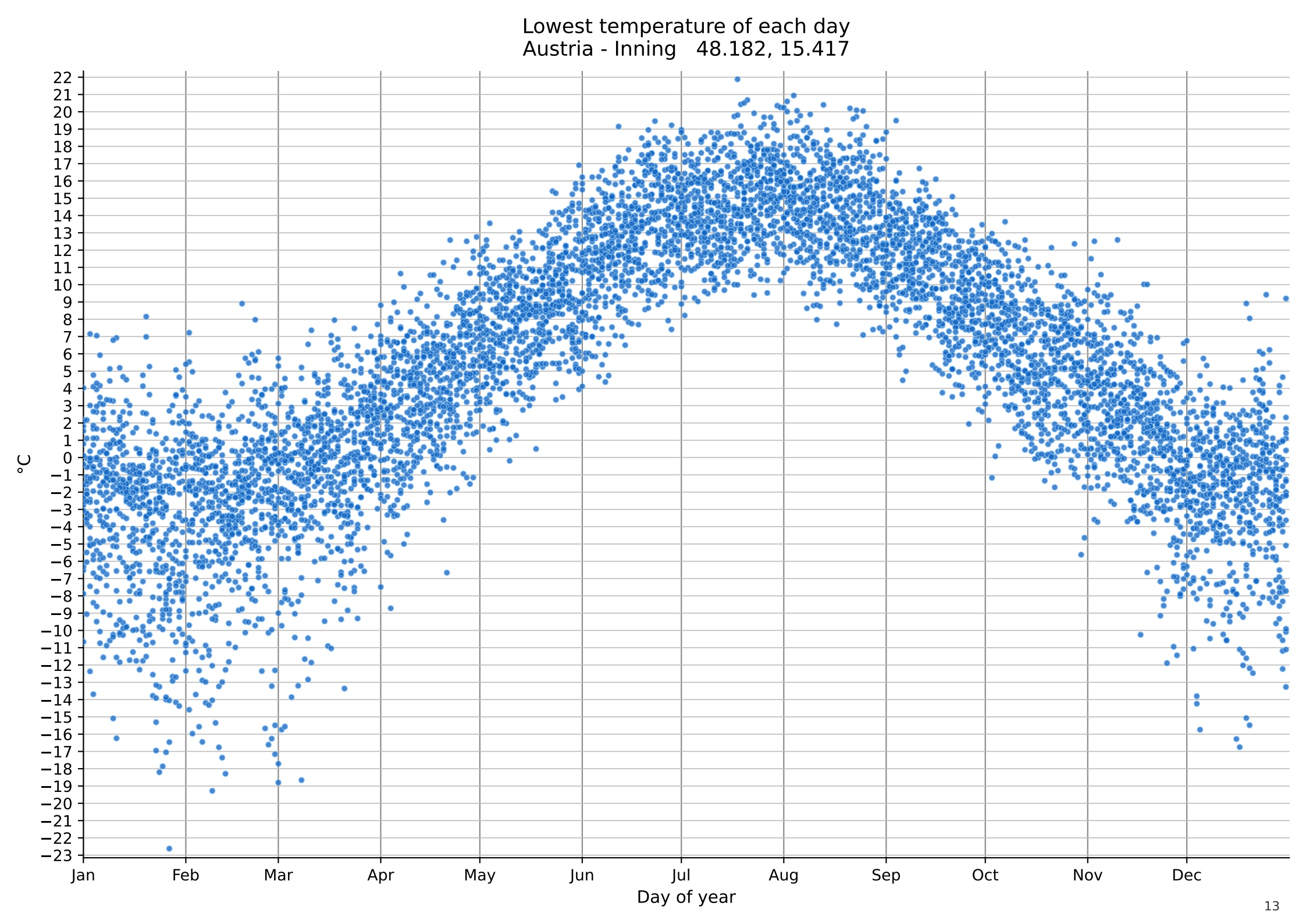

Yield distribution for each day — Wh / Wp of all PV together — 15:00–23:59
Austria - Inning 48.182, 15.417
Wh / Wp
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

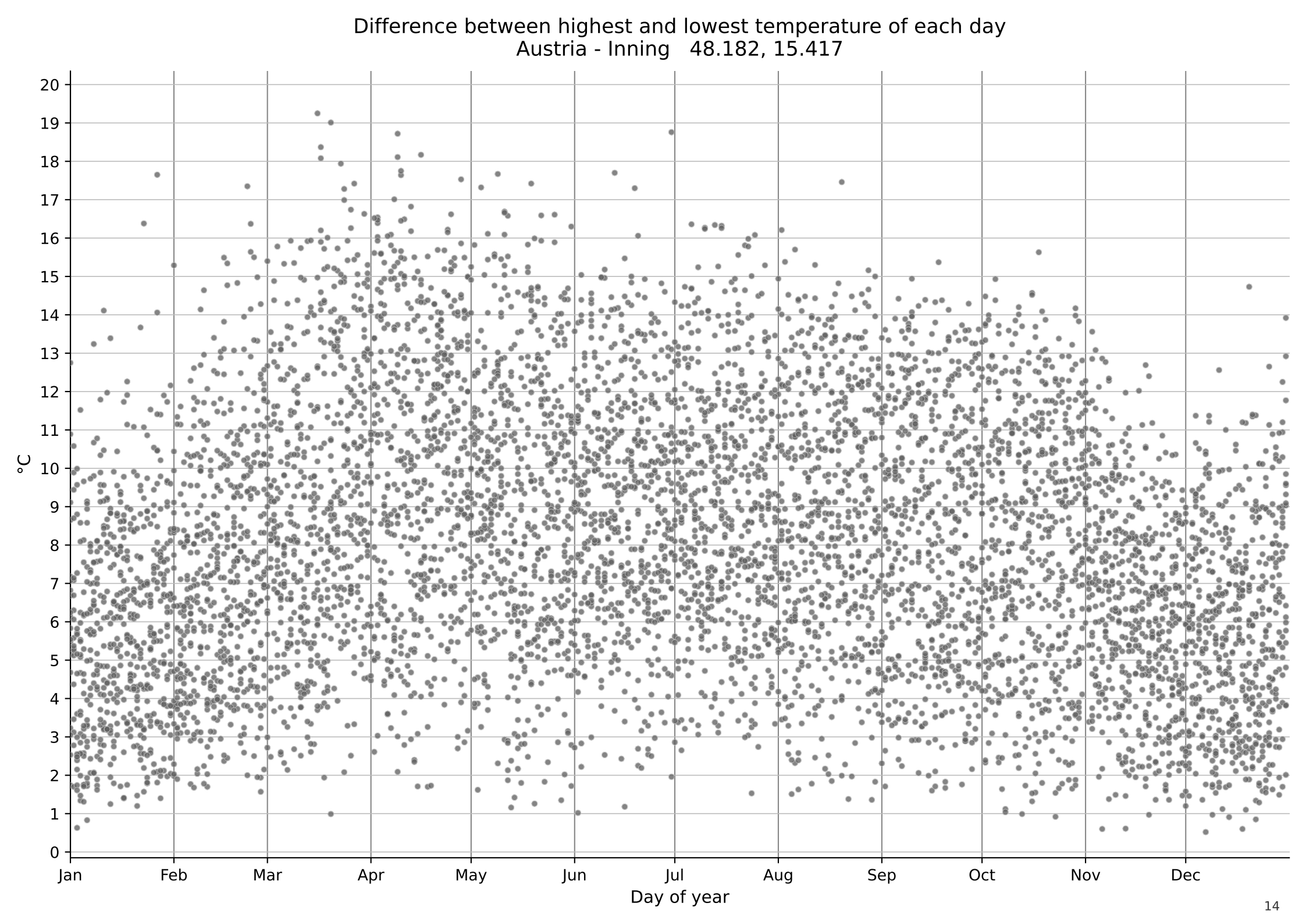

Share of the day’s yield in 09:00–15:00 winter time
Austria - Inning 48.182, 15.417
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Share of the day’s yield outside 09:00–15:00 winter time
Austria - Inning 48.182, 15.417
%
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 - Inning 48.182, 15.417
°C
34
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 - Inning 48.182, 15.417
°C
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
−14
−15
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Lowest temperature of each day
Austria - Inning 48.182, 15.417
°C
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
−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 - Inning 48.182, 15.417
°C
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
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 - Inning 48.182, 15.417

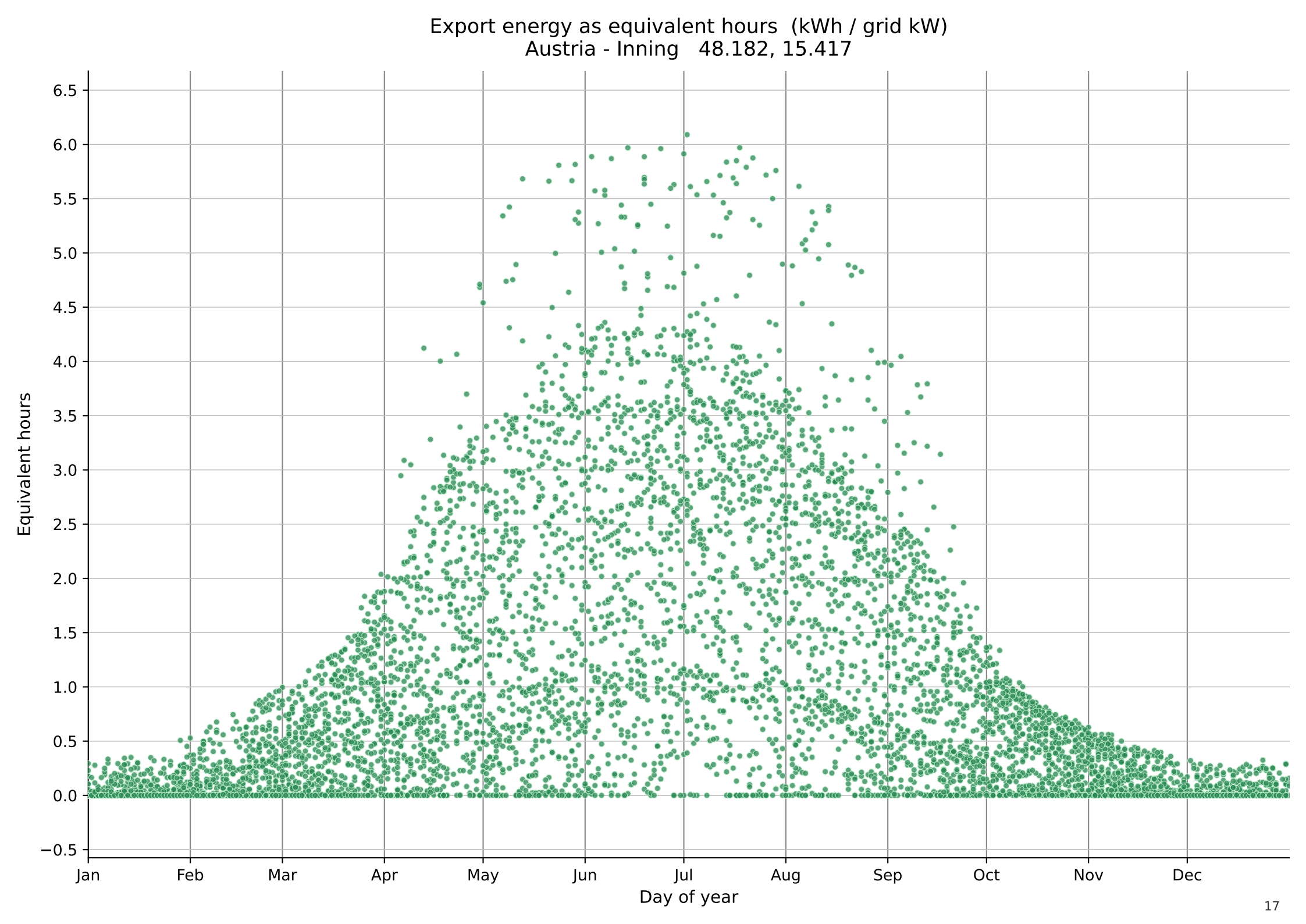
Month / year		Garage roof 1°/0° 10,740 Wp	All together
January	Maximum	32.84	32.84
	average	23.62	23.62
	minimum	17.95	17.95
February	Maximum	51.56	51.56
	average	41.81	41.81
	minimum	30.53	30.53
March	Maximum	103.67	103.67
	average	78.18	78.18
	minimum	60.95	60.95
April	Maximum	138.59	138.59
	average	110.61	110.61
	minimum	87.14	87.14
May	Maximum	144.59	144.59
	average	124.01	124.01
	minimum	91.48	91.48
June	Maximum	163.28	163.28
	average	135.71	135.71
	minimum	109.40	109.40
July	Maximum	158.88	158.88
	average	138.27	138.27
	minimum	102.76	102.76
August	Maximum	132.11	132.11
	average	117.75	117.75
	minimum	102.53	102.53
September	Maximum	104.79	104.79
	average	86.69	86.69
	minimum	69.95	69.95
October	Maximum	68.41	68.41
	average	54.55	54.55
	minimum	37.60	37.60
November	Maximum	33.54	33.54
	average	26.62	26.62
	minimum	20.26	20.26
December	Maximum	25.37	25.37
	average	19.18	19.18
	minimum	15.84	15.84
All years	Maximum	1,005.5	1,005.5
	average	957.0	957.0
	minimum	908.1	908.1

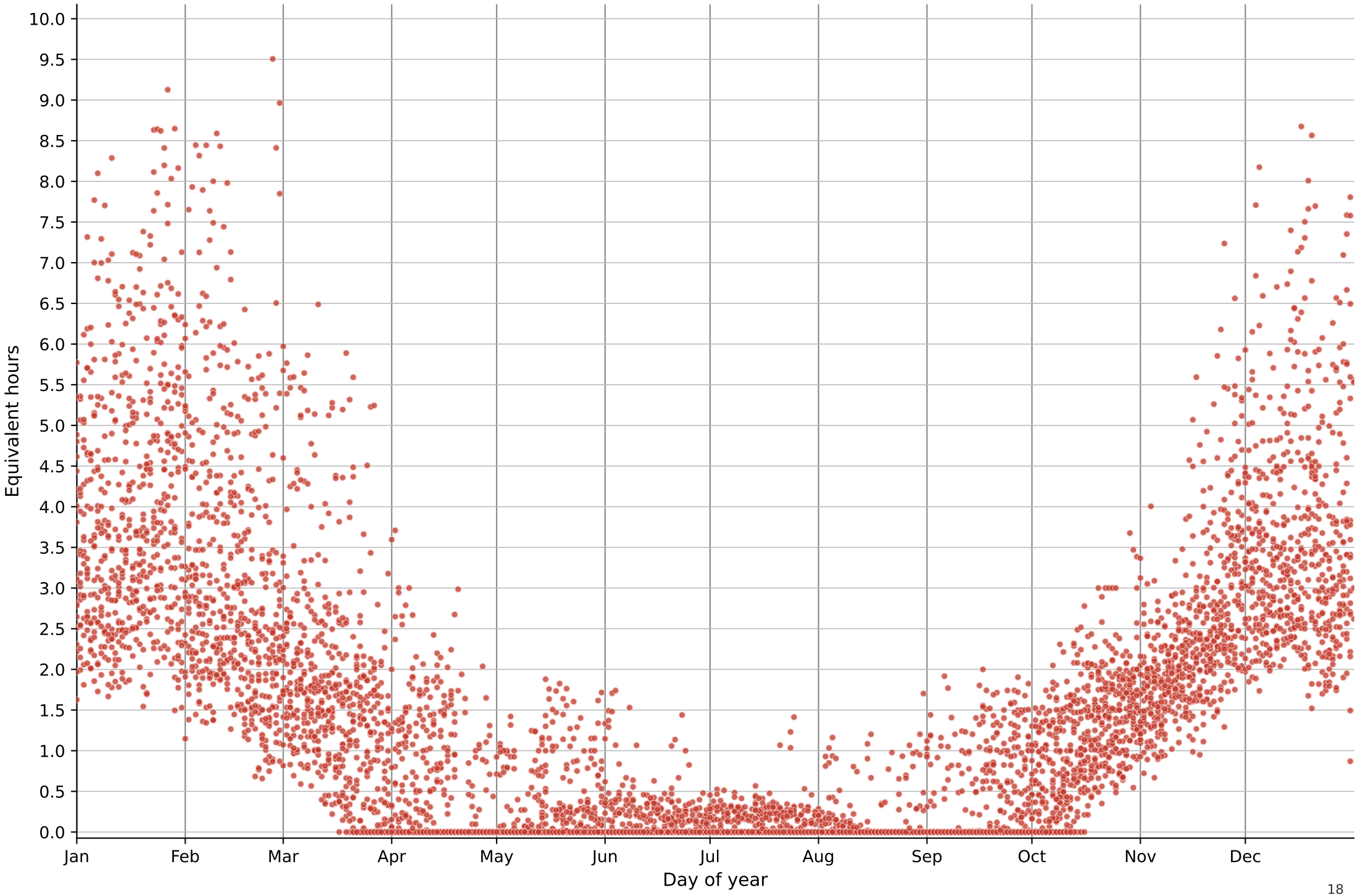
Highest combined yield hour: 2009-06-13 11:10 UTC 8,369.1 W (0.779 W/Wp) of 10,740 Wp installed. Use this hour to size battery charge power.

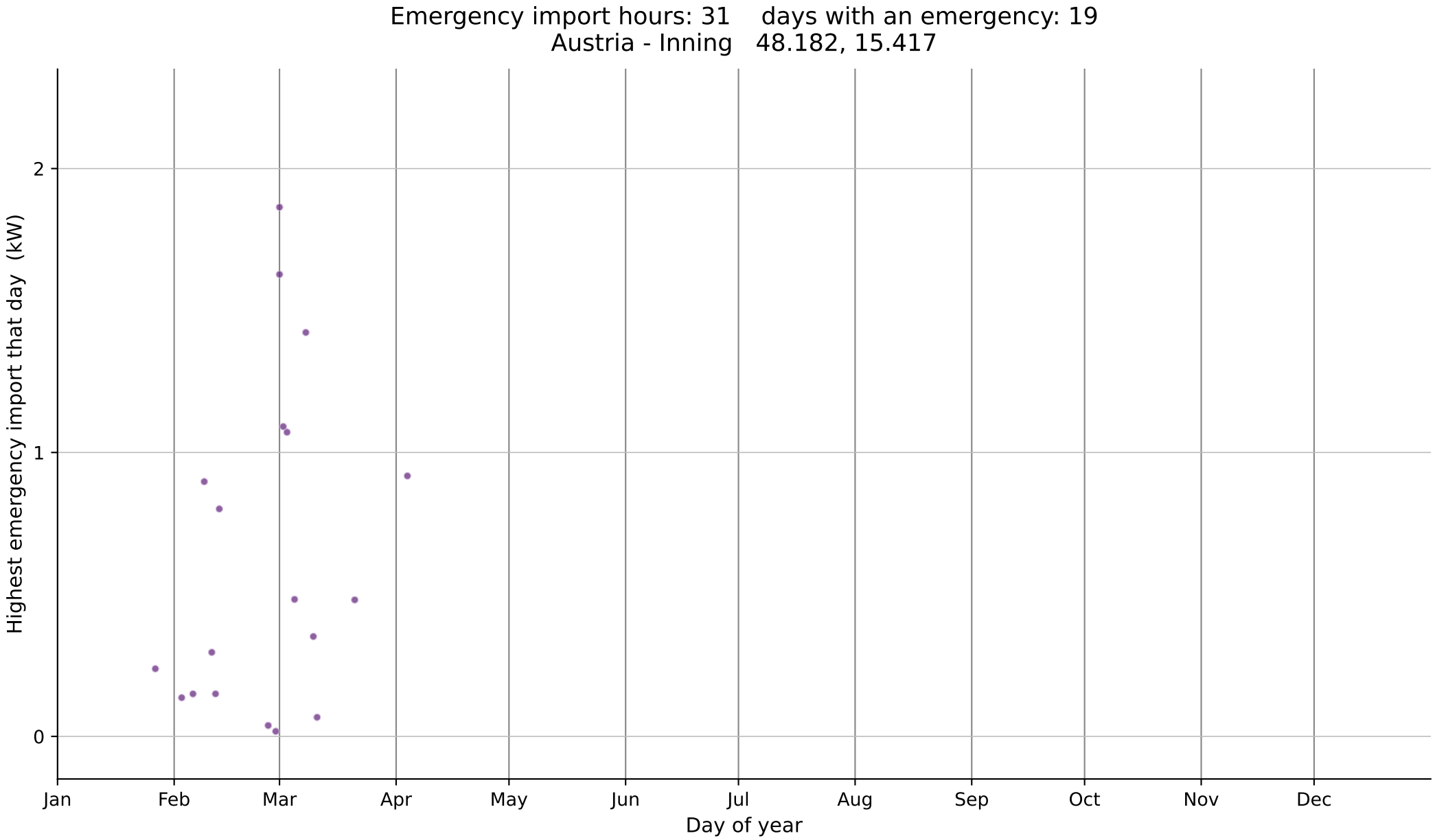
Monthly and yearly total yield (kWh)
Austria - Inning 48.182, 15.417

Month / year		Garage roof 1°/0° 10,740 Wp	All together
January	Maximum	352.68	352.68
	average	253.64	253.64
	minimum	192.81	192.81
February	Maximum	553.71	553.71
	average	449.02	449.02
	minimum	327.93	327.93
March	Maximum	1,113.39	1,113.39
	average	839.69	839.69
	minimum	654.63	654.63
April	Maximum	1,488.40	1,488.40
	average	1,188.00	1,188.00
	minimum	935.83	935.83
May	Maximum	1,552.93	1,552.93
	average	1,331.89	1,331.89
	minimum	982.45	982.45
June	Maximum	1,753.66	1,753.66
	average	1,457.52	1,457.52
	minimum	1,174.96	1,174.96
July	Maximum	1,706.42	1,706.42
	average	1,485.03	1,485.03
	minimum	1,103.61	1,103.61
August	Maximum	1,418.83	1,418.83
	average	1,264.60	1,264.60
	minimum	1,101.14	1,101.14
September	Maximum	1,125.43	1,125.43
	average	931.05	931.05
	minimum	751.23	751.23
October	Maximum	734.70	734.70
	average	585.91	585.91
	minimum	403.85	403.85
November	Maximum	360.26	360.26
	average	285.88	285.88
	minimum	217.55	217.55
December	Maximum	272.47	272.47
	average	206.03	206.03
	minimum	170.14	170.14
All years	Maximum	10,798.9	10,798.9
	average	10,278.3	10,278.3
	minimum	9,753.0	9,753.0

Highest combined yield hour: 2009-06-13 11:10 UTC 8,369.1 W (0.779 W/Wp) of 10,740 Wp installed. Use this hour to size battery charge power.


Export energy as equivalent hours (kWh / grid kW)
Austria - Inning 48.182, 15.417
Equivalent hours
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
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 - Inning 48.182, 15.417
Equivalent hours
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year



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
Export to grid													
month Maximum	31	95	293	692	874	1,128	1,138	815	495	227	78	33	4,727
month average	16	54	205	429	626	838	878	650	330	162	47	13	4,249
month minimum	5	9	107	234	346	536	487	471	195	92	21	2	3,687
day Maximum	6.1	11.5	24.5	56.5	69.8	71.6	73.1	67.4	48.5	16.4	7.5	3.9	73.1
day average	0.5	1.9	6.6	14.3	20.2	27.9	28.3	21.0	11.0	5.2	1.6	0.4	11.6
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
Import from grid													
month Maximum	2,165	1,833	1,047	311	170	99	55	57	249	566	1,203	2,103	8,217
month average	1,483	1,074	612	146	73	40	30	23	100	416	858	1,334	6,189
month minimum	1,024	645	322	4	17	12	17	0	8	261	720	891	5,041
day Maximum	109.5	114.1	77.8	44.5	22.5	20.9	17.0	20.4	24.0	44.1	86.8	104.1	114.1
day average	47.8	38.1	19.8	4.9	2.4	1.3	1.0	0.8	3.3	13.4	28.6	43.0	16.9
day minimum	17.9	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	10.4	0.0
Total energy used for house													
month Maximum	2,275	2,069	1,488	921	736	589	571	594	664	882	1,288	2,164	12,904
month average	1,584	1,346	1,141	784	667	547	526	538	604	771	1,005	1,400	10,913
month minimum	1,140	942	895	642	593	495	500	501	532	669	854	1,040	9,861
day Maximum	116.0	110.1	99.4	52.0	31.7	26.6	24.0	24.4	28.3	50.5	78.1	105.7	116.0
day average	51.1	47.7	36.8	26.1	21.5	18.2	17.0	17.3	20.1	24.9	33.5	45.2	29.9
day minimum	16.7	22.5	20.8	16.2	15.6	15.6	15.5	15.5	15.5	16.9	20.2	23.4	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	2	6	20	82	128	183	187	129	67	13	4	2	656
month average	1	3	14	41	81	130	139	95	34	9	3	1	550
month minimum	0	1	7	14	37	82	63	55	12	4	1	0	455
day Maximum	0.4	0.8	2.5	10.1	13.5	13.8	14.2	13.4	8.6	1.1	0.4	0.2	14.2
day average	0.0	0.1	0.4	1.4	2.6	4.3	4.5	3.1	1.1	0.3	0.1	0.0	1.5
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
Import													
month Maximum	544	473	263	55	28	17	9	10	40	131	296	524	1,970
month average	362	264	147	24	13	8	7	4	16	96	202	321	1,464
month minimum	245	149	74	1	3	3	4	0	1	60	166	208	1,163
day Maximum	29.3	31.5	21.7	9.0	4.1	3.8	3.1	3.7	4.3	10.5	23.9	27.6	31.5
day average	11.7	9.3	4.7	0.8	0.4	0.3	0.2	0.1	0.5	3.1	6.7	10.3	4.0
day minimum	3.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.2	0.0
Peak grid fee													
month Maximum	65	63	63	44	25	25	25	25	38	38	57	63	519
month average	63	57	53	37	25	17	15	22	38	38	57	63	486
month minimum	63	57	51	17	24	8	8	0	38	38	57	63	450
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	607	536	322	93	53	43	35	35	78	169	353	587	2,472
month average	426	321	199	61	38	26	22	26	54	134	259	384	1,950
month minimum	308	206	124	17	28	11	13	0	39	98	223	272	1,641
day Maximum	29.3	31.5	21.7	9.0	4.1	3.8	3.1	3.7	4.3	10.5	23.9	27.6	31.5
day average	11.7	9.3	4.7	0.8	0.4	0.3	0.2	0.1	0.5	3.1	6.7	10.3	4.0
day minimum	3.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.2	0.0
Balance													
month Maximum	-306	-201	-106	61	95	162	168	112	27	-87	-220	-270	-1,093
month average	-425	-318	-186	-20	44	104	116	69	-20	-125	-256	-383	-1,399
month minimum	-606	-535	-308	-75	-13	49	29	25	-55	-164	-351	-587	-2,017
day Maximum	-3.8	-1.2	2.5	10.1	13.5	13.8	14.2	13.4	8.6	1.1	-1.5	-2.2	14.2
day average	-11.7	-9.2	-4.3	0.6	2.2	4.1	4.2	2.9	0.6	-2.8	-6.6	-10.3	-2.5
day minimum	-29.3	-31.5	-21.6	-9.0	-4.1	-3.8	-3.1	-3.7	-4.3	-10.5	-23.9	-27.6	-31.5

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
Export total													
month Maximum	31	95	293	692	874	1,128	1,138	815	495	227	78	33	4,727
month average	16	54	205	429	626	838	878	650	330	162	47	13	4,249
month minimum	5	9	107	234	346	536	487	471	195	92	21	2	3,687
day Maximum	6.1	11.5	24.5	56.5	69.8	71.6	73.1	67.4	48.5	16.4	7.5	3.9	73.1
day average	0.5	1.9	6.6	14.3	20.2	27.9	28.3	21.0	11.0	5.2	1.6	0.4	11.6
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
Export during high price hours													
month Maximum	0	0	18	330	543	811	840	568	275	4	0	0	2,756
month average	0	-0	5	143	337	573	612	404	121	0	0	0	2,195
month minimum	0	-0	0	30	130	344	275	225	15	-0	0	0	1,766
day Maximum	0.0	0.0	10.0	42.4	58.1	60.0	62.2	58.1	36.8	4.3	0.0	0.0	62.2
day average	0.0	-0.0	0.2	4.8	10.9	19.1	19.7	13.0	4.0	0.0	0.0	0.0	6.0
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
Export during medium price hours													
month Maximum	8	34	107	178	199	218	234	188	128	55	8	1	1,136
month average	2	18	73	132	147	174	186	152	93	32	3	0	1,013
month minimum	0	6	43	93	92	119	124	117	59	10	0	0	905
day Maximum	1.3	3.3	6.7	9.1	10.2	10.5	10.4	9.7	7.7	3.7	1.0	0.3	10.5
day average	0.1	0.6	2.4	4.4	4.7	5.8	6.0	4.9	3.1	1.0	0.1	0.0	2.8
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	27	66	197	211	178	127	114	148	149	172	69	32	1,221
month average	14	36	127	155	142	91	80	93	117	130	44	13	1,042
month minimum	3	4	52	104	95	57	52	36	81	82	19	2	880
day Maximum	5.0	8.5	17.5	29.8	35.0	29.5	31.1	29.4	26.5	13.0	6.5	3.9	35.0
day average	0.4	1.3	4.1	5.2	4.6	3.0	2.6	3.0	3.9	4.2	1.5	0.4	2.9
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

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

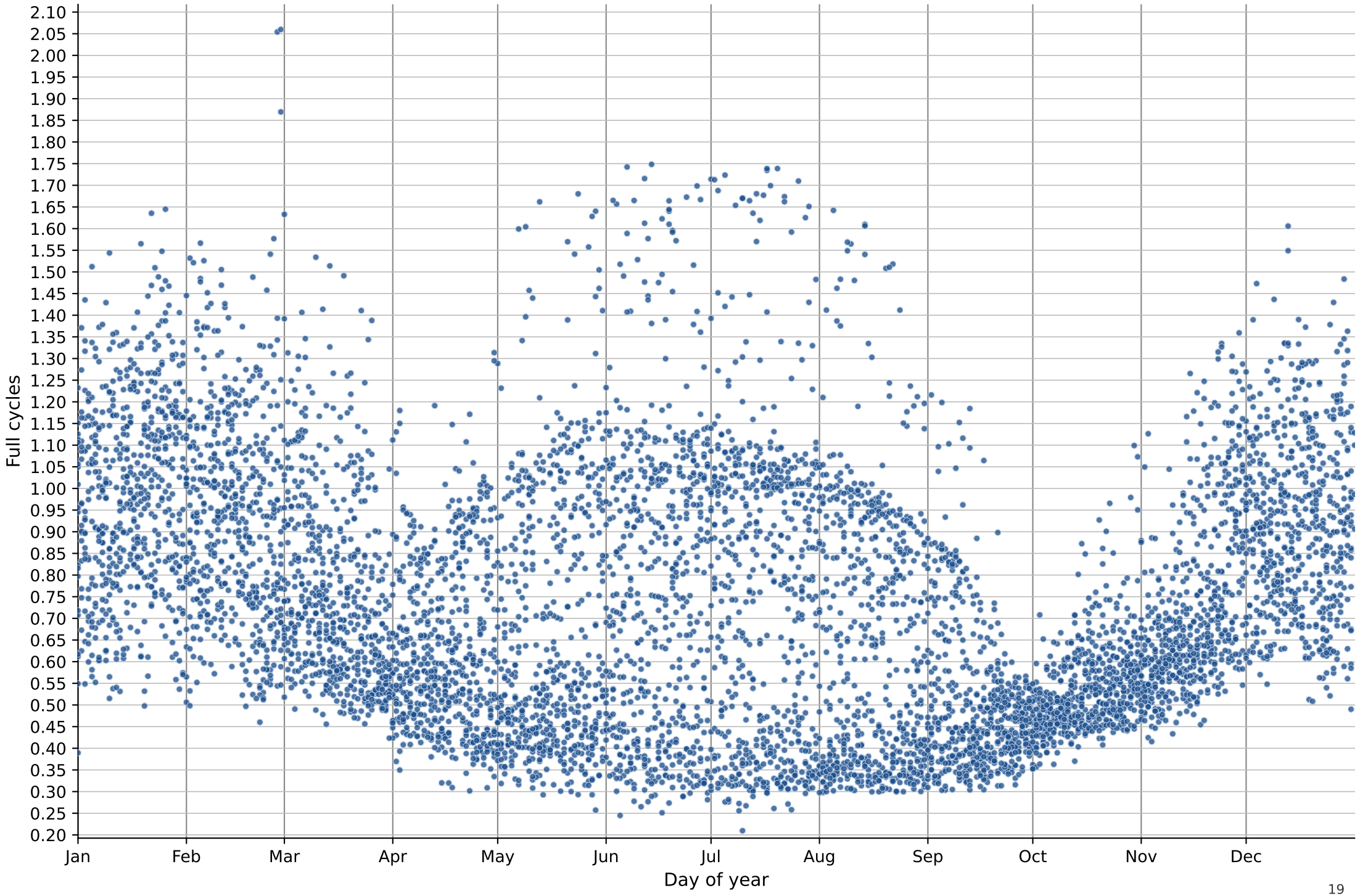
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Heating													
month Maximum	1,707	1,526	961	436	240	114	85	107	190	380	791	1,606	6,903
month average	1,053	867	629	303	174	75	42	54	132	274	516	881	4,998
month minimum	625	480	390	166	104	25	18	19	64	176	368	534	3,983
day Maximum	94.6	88.6	80.1	35.4	15.3	10.4	8.2	8.4	12.1	33.9	60.0	84.7	94.6
day average	34.0	30.7	20.3	10.1	5.6	2.5	1.4	1.7	4.4	8.8	17.2	28.4	13.7
day minimum	0.0	6.4	4.9	0.4	0.0	0.0	0.0	0.0	0.0	1.1	4.3	7.3	0.0
Cooling													
month Maximum	0	0	0	0	0	0	1	3	0	0	0	0	3
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	1.1	2.9	0.0	0.0	0.0	0.0	2.9
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	134	137	92	65	62	55	52	53	54	67	78	124	891
month average	97	84	78	61	59	53	49	50	52	63	70	84	802
month minimum	81	70	71	56	55	50	48	48	48	59	66	72	762
day Maximum	7.4	7.4	5.9	2.7	2.4	2.2	1.9	2.0	2.1	2.7	4.3	7.0	7.4
day average	3.1	3.0	2.5	2.0	1.9	1.8	1.6	1.6	1.7	2.0	2.3	2.7	2.2
day minimum	2.2	2.1	1.9	1.6	1.6	1.6	1.5	1.5	1.5	1.7	1.9	2.1	1.5
Direct electric													
month Maximum	1,072	965	469	81	2	0	0	0	0	45	325	979	3,034
month average	492	379	184	24	0	0	0	0	0	8	106	343	1,536
month minimum	168	59	24	0	0	0	0	0	0	0	18	80	750
day Maximum	72.5	66.5	58.4	16.3	1.3	0.0	0.0	0.0	0.0	15.3	39.0	62.7	72.5
day average	15.9	13.4	6.0	0.8	0.0	0.0	0.0	0.0	0.0	0.3	3.5	11.1	4.2
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

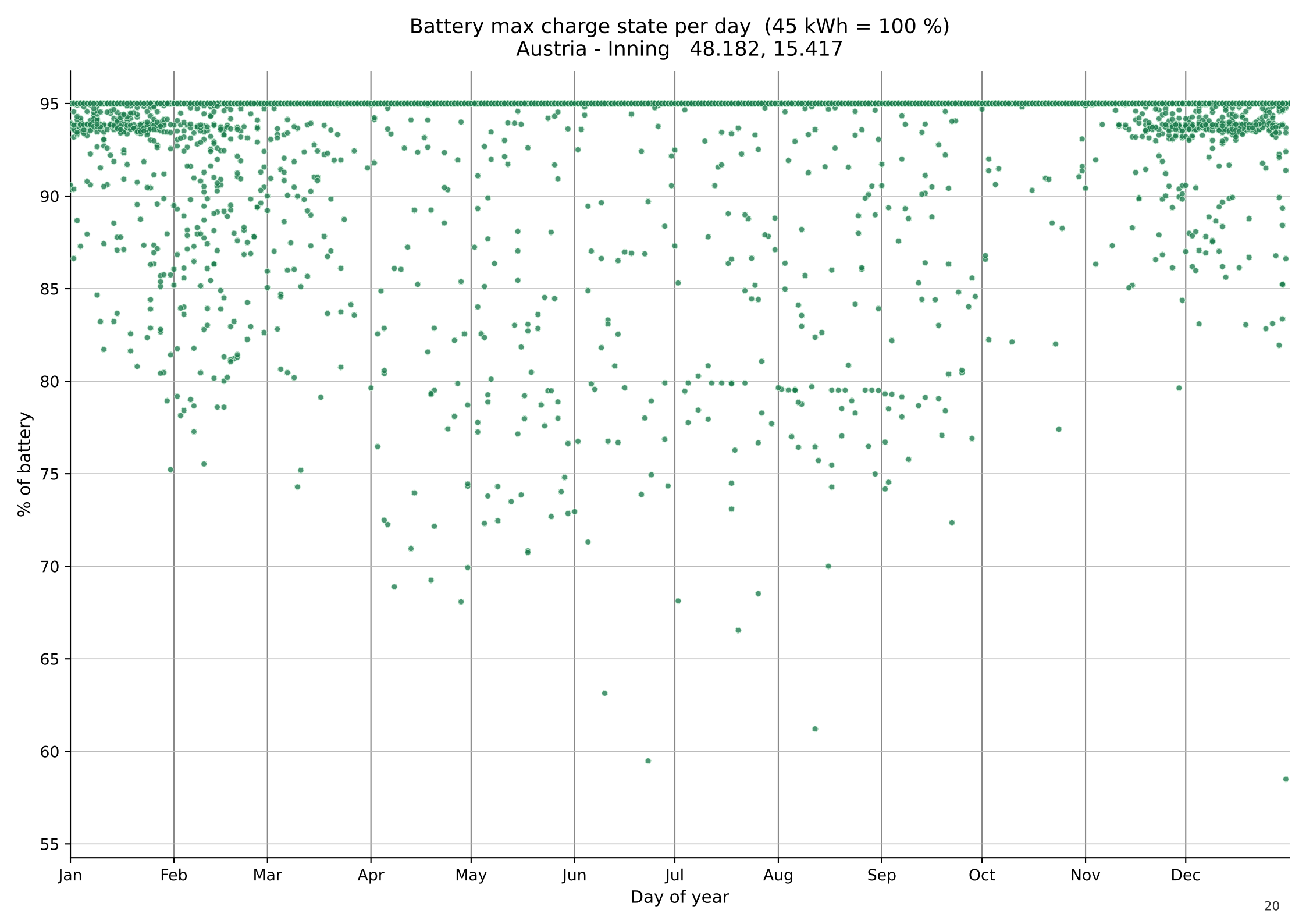
Heating, cooling and DHW are electricity. Direct electric is the part the heat pump could not cover.

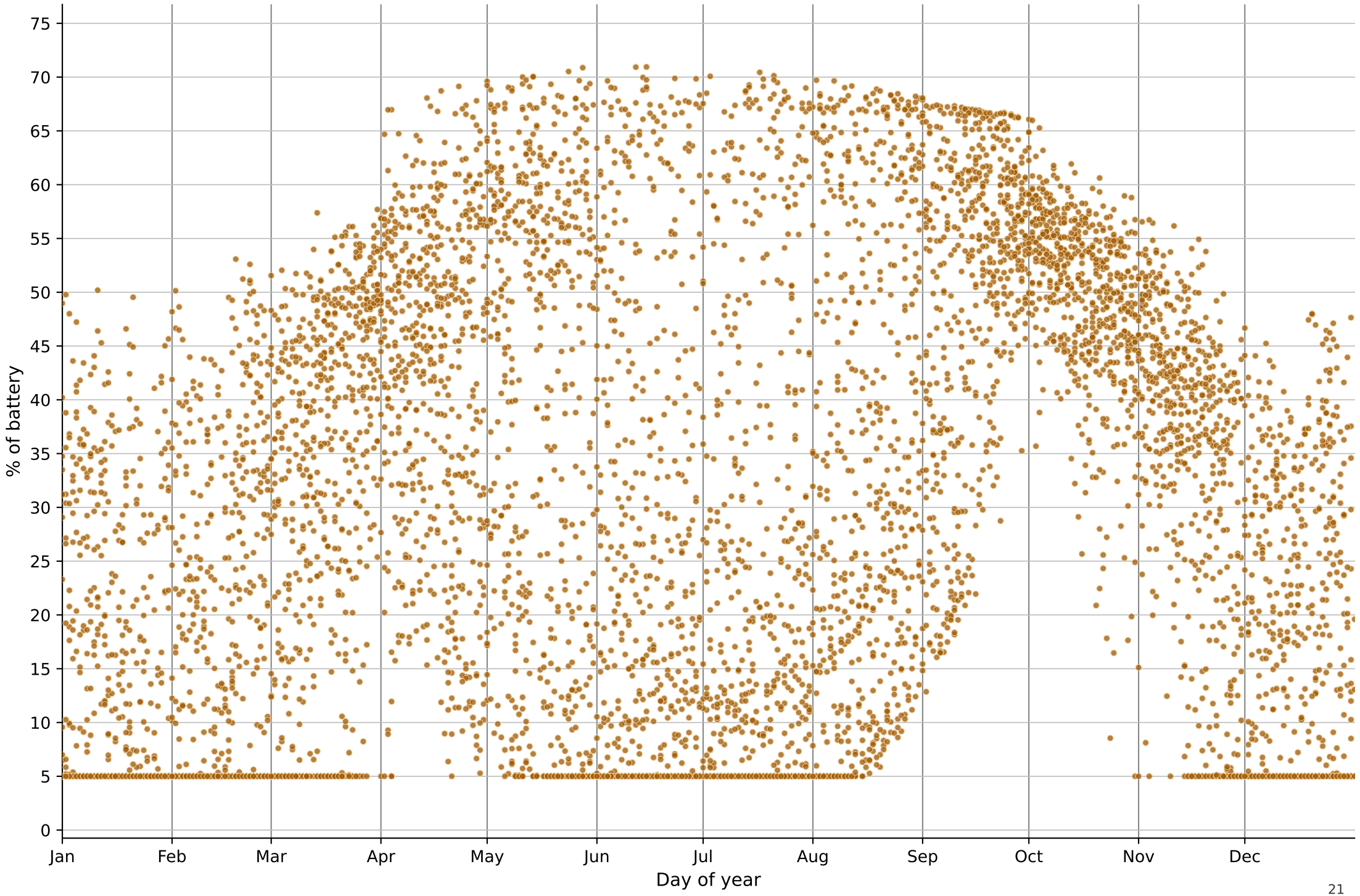
Battery
Austria - Inning 48.182, 15.417

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Wasted													
month Maximum	0	0	0	90	68	75	48	37	59	0	0	0	239
month average	0	0	0	47	40	30	20	19	31	0	0	0	187
month minimum	0	0	0	17	21	7	4	0	15	0	0	0	135
day Maximum	0.0	0.0	0.0	21.8	26.1	33.4	21.0	18.8	17.1	0.0	0.0	0.0	33.4
day average	0.0	0.0	0.0	1.6	1.3	1.0	0.7	0.6	1.0	0.0	0.0	0.0	0.5
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	38	33	29	22	24	28	28	23	17	19	27	35	283
month average	31	26	23	19	21	23	24	20	15	17	22	29	269
month minimum	24	20	19	16	17	19	17	17	14	14	19	23	244
day Maximum	1.6	2.1	1.6	1.3	1.7	1.7	1.7	1.6	1.2	1.1	1.4	1.6	2.1
day average	1.0	0.9	0.8	0.6	0.7	0.8	0.8	0.6	0.5	0.5	0.7	0.9	0.7
day minimum	0.4	0.5	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.2
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	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
day average	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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
Discharge C													
month Maximum	0	0	0	0	0	0	0	0	0	0	0	0	3
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	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.2	0.2	0.3
day average	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	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

Wasted = PV left when the export price is negative and the battery is full. Full cycles = discharge kWh / 45 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 / 45 kWh)
Austria - Inning 48.182, 15.417
Full cycles
2.10
2.05
2.00
1.95
1.90
1.85
1.80
1.75
1.70
1.65
1.60
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Battery max charge state per day (45 kWh = 100 %)
Austria - Inning 48.182, 15.417
95
90
85
80
75
70
65
60
55
% of battery
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Battery min charge state per day (45 kWh = 100 %)
Austria - Inning 48.182, 15.417
% of battery
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year