

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
Total counted			20930				

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 2021-04-23 11:10 local (10:10 UTC) 10733 W 0.513 W/Wp of 20930 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 / 4000.0 W
	Heat on / cool on / ground	20.0 °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	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	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 5 Feb 5 Mar 4 Apr 3 May 3 Jun 3
	Import cap Jul-Dec kW	Jul 3 Aug 3 Sep 3 Oct 4 Nov 4 Dec 5
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	2021-04-23 10:10	2005-04-22 10:10	2020-05-07 10:10	2005-04-22 11:10	2006-05-01 10:10	2022-04-04 10:10	2020-05-24 10:10	2012-05-18 10:10	2020-04-21 10:10	2017-04-30 10:10
Garage roof	7920	7815	8024	8152	7973	7413	8175	8050	7720	7877
Garage side wall south	2078	2075	1842	2180	1941	2378	1648	1711	2072	1937
Garage side wall north	124	135	152	115	113	131	168	195	154	149
Garage door side	25	27	31	80	23	26	34	39	31	30
Garage back side	587	593	564	84	562	655	567	583	600	576
Watt at record	10733	10645	10612	10612	10611	10604	10592	10578	10577	10568
Percent of installed peak	51.3	50.9	50.7	50.7	50.7	50.7	50.6	50.5	50.5	50.5

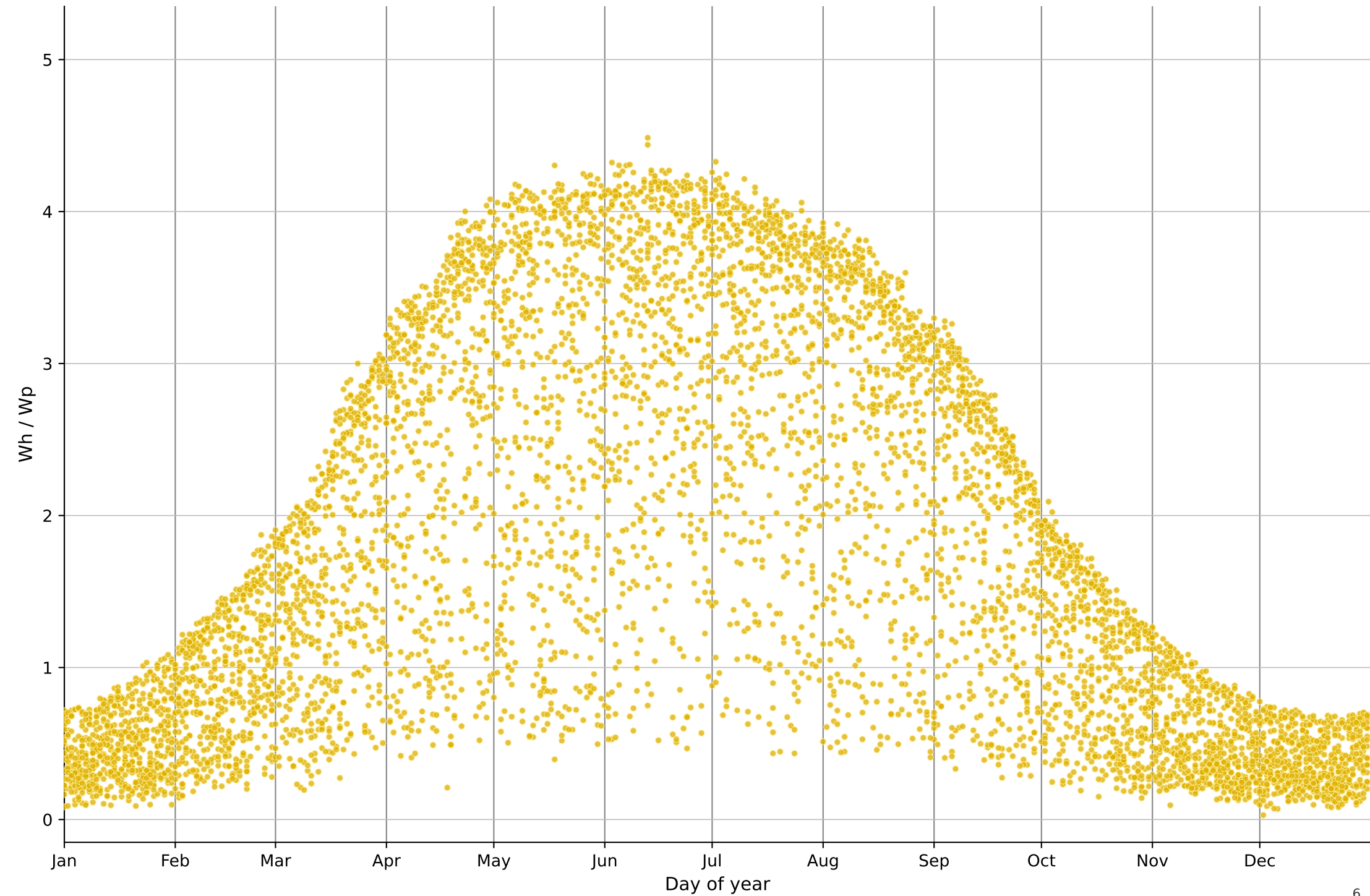
Hours at or above a share of the record
Austria - Inning 48.182, 15.417

Of the record	Hours	Watts
98 %	12	10518 W
96 %	75	10303 W
94 %	236	10089 W
92 %	599	9874 W
90 %	1245	9659 W

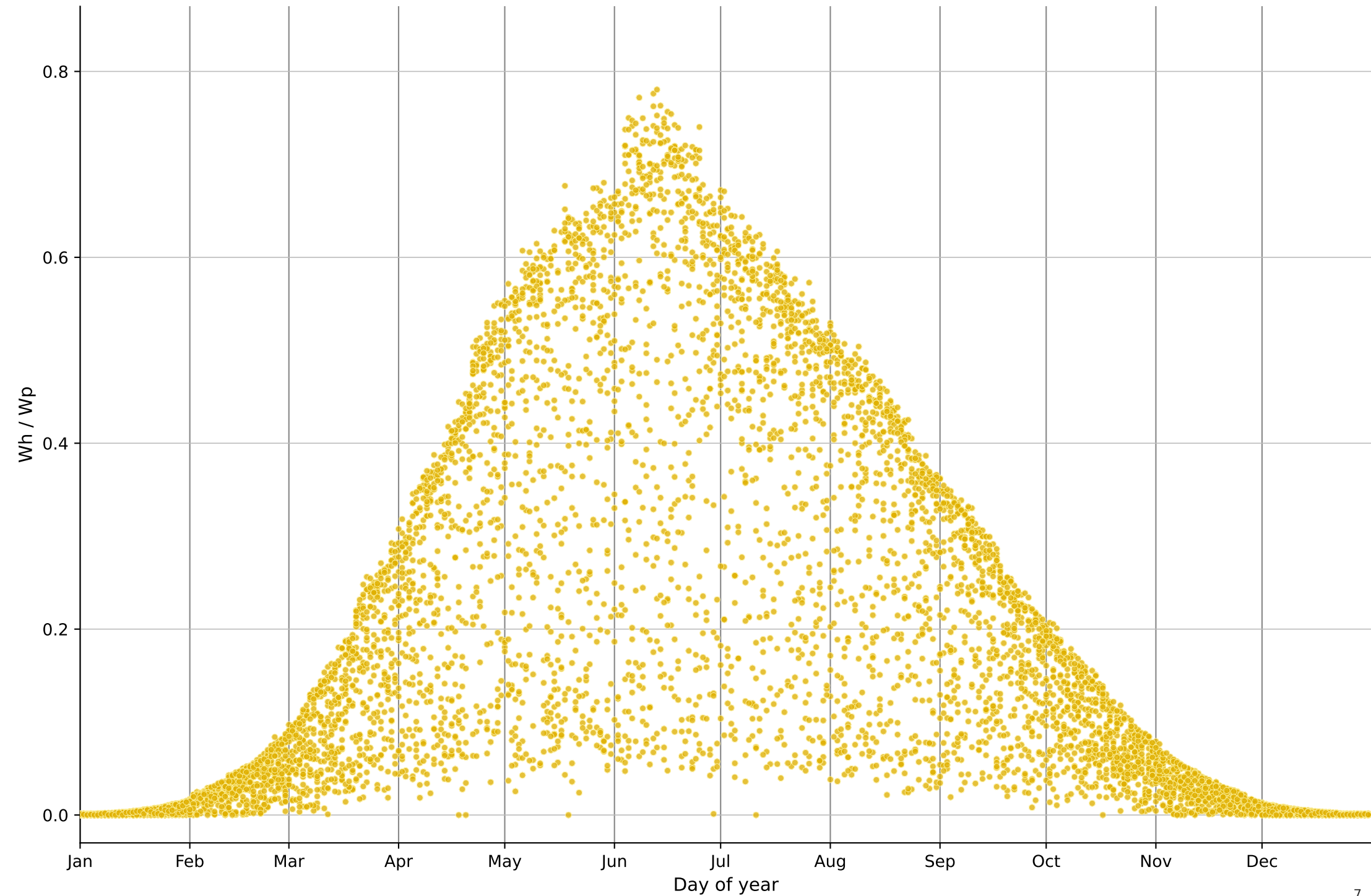
Records of each photovoltaic field
Austria - Inning 48.182, 15.417

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

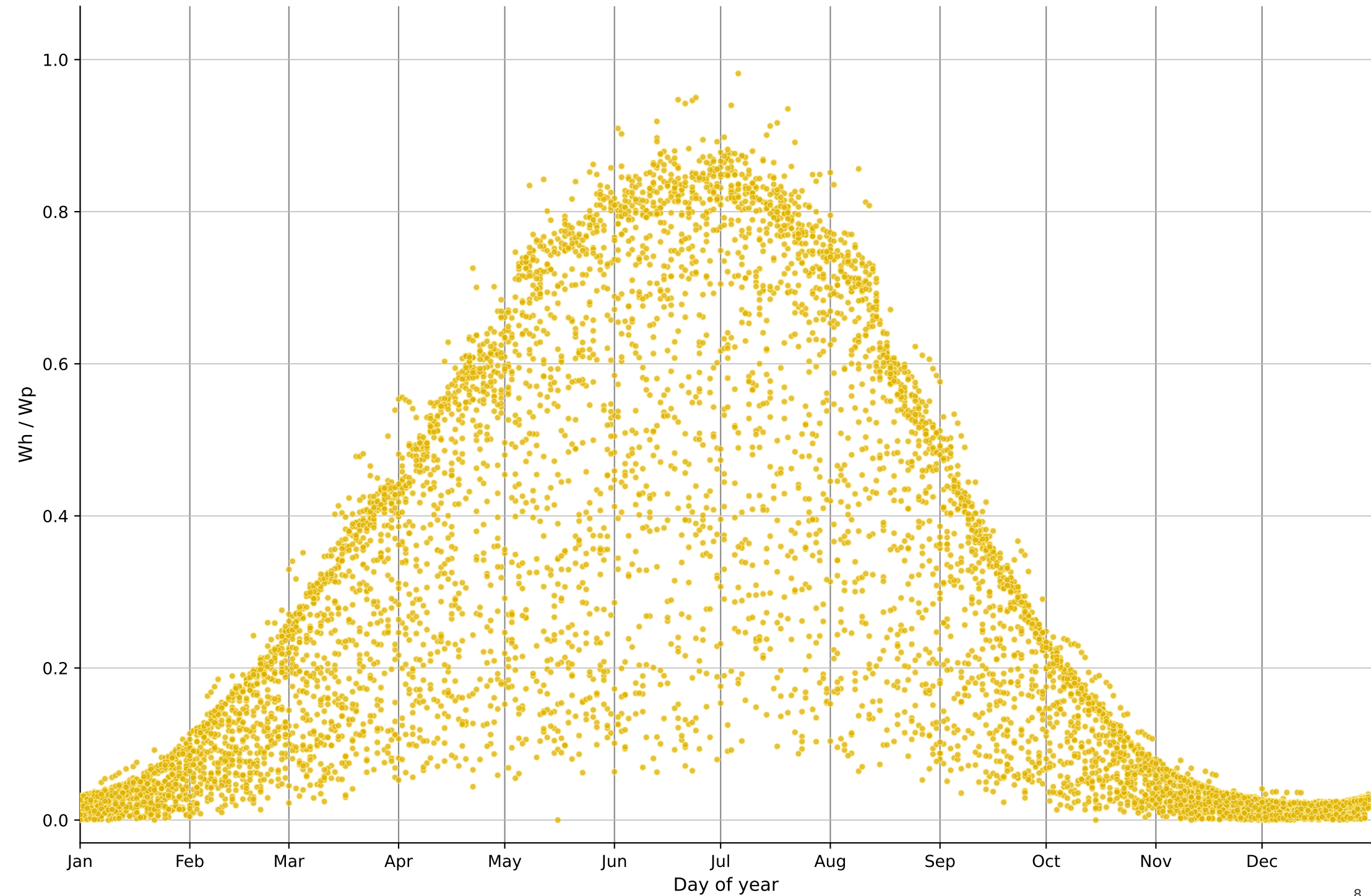
Yield distribution for each day — W_h / W_p of all PV together
Austria - Inning 48.182, 15.417



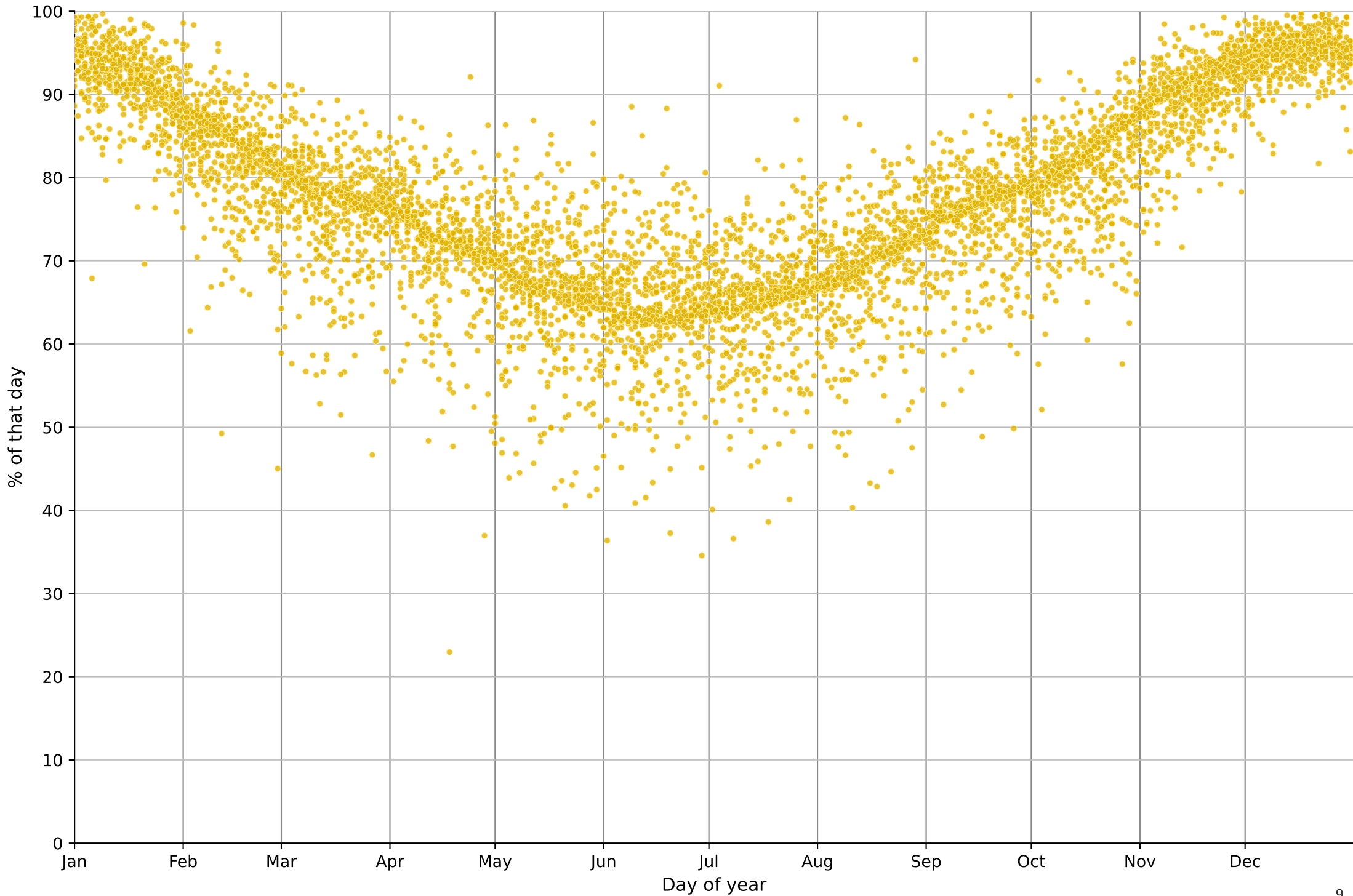
Yield distribution for each day — Wh / Wp of all PV together — 00:00-09:00
Austria - Inning 48.182, 15.417



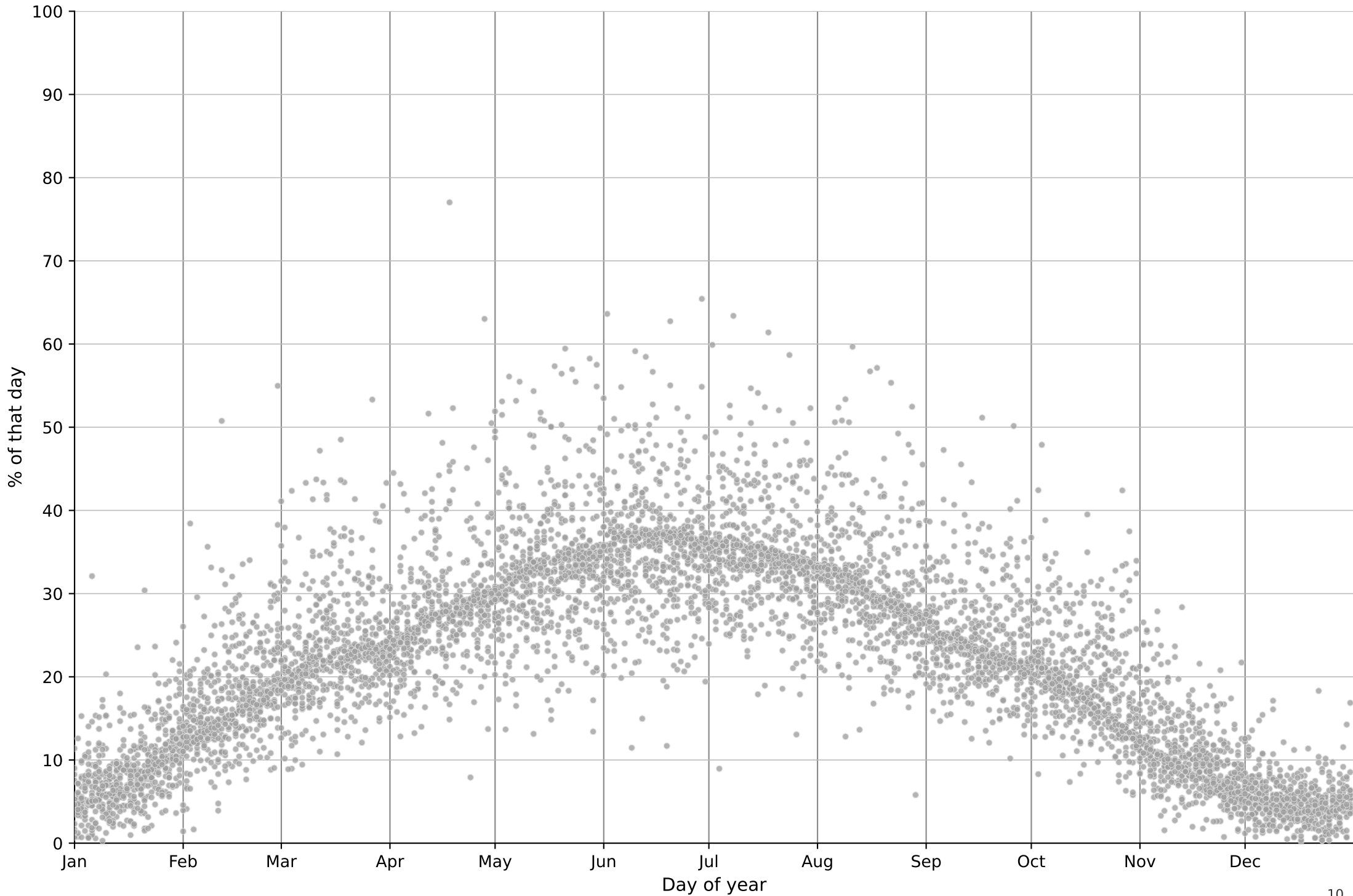
Yield distribution for each day — Wh / Wp of all PV together — 15:00-23:59
Austria - Inning 48.182, 15.417



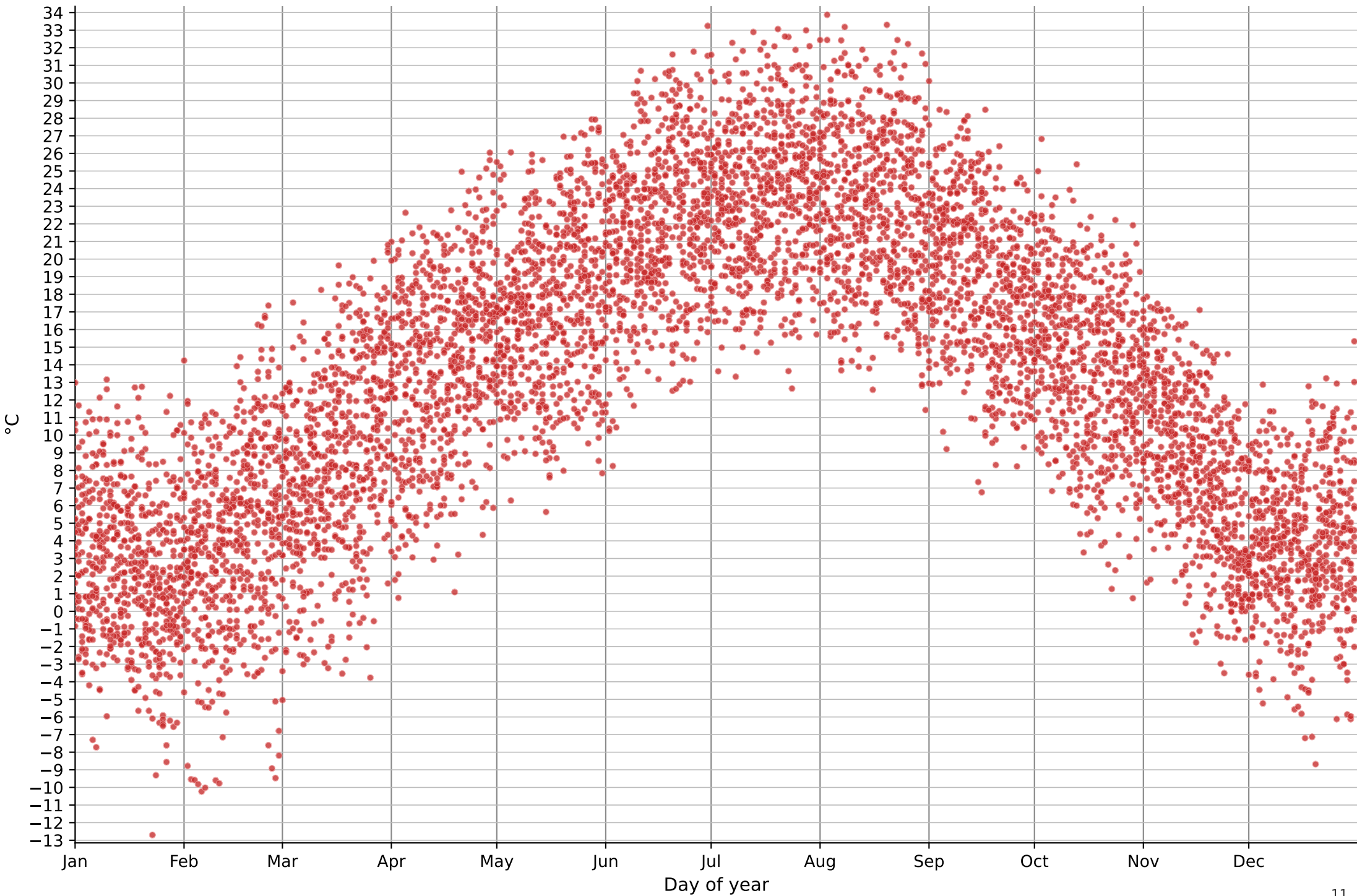
Share of the day's yield in 09:00-15:00 winter time
Austria - Inning 48.182, 15.417



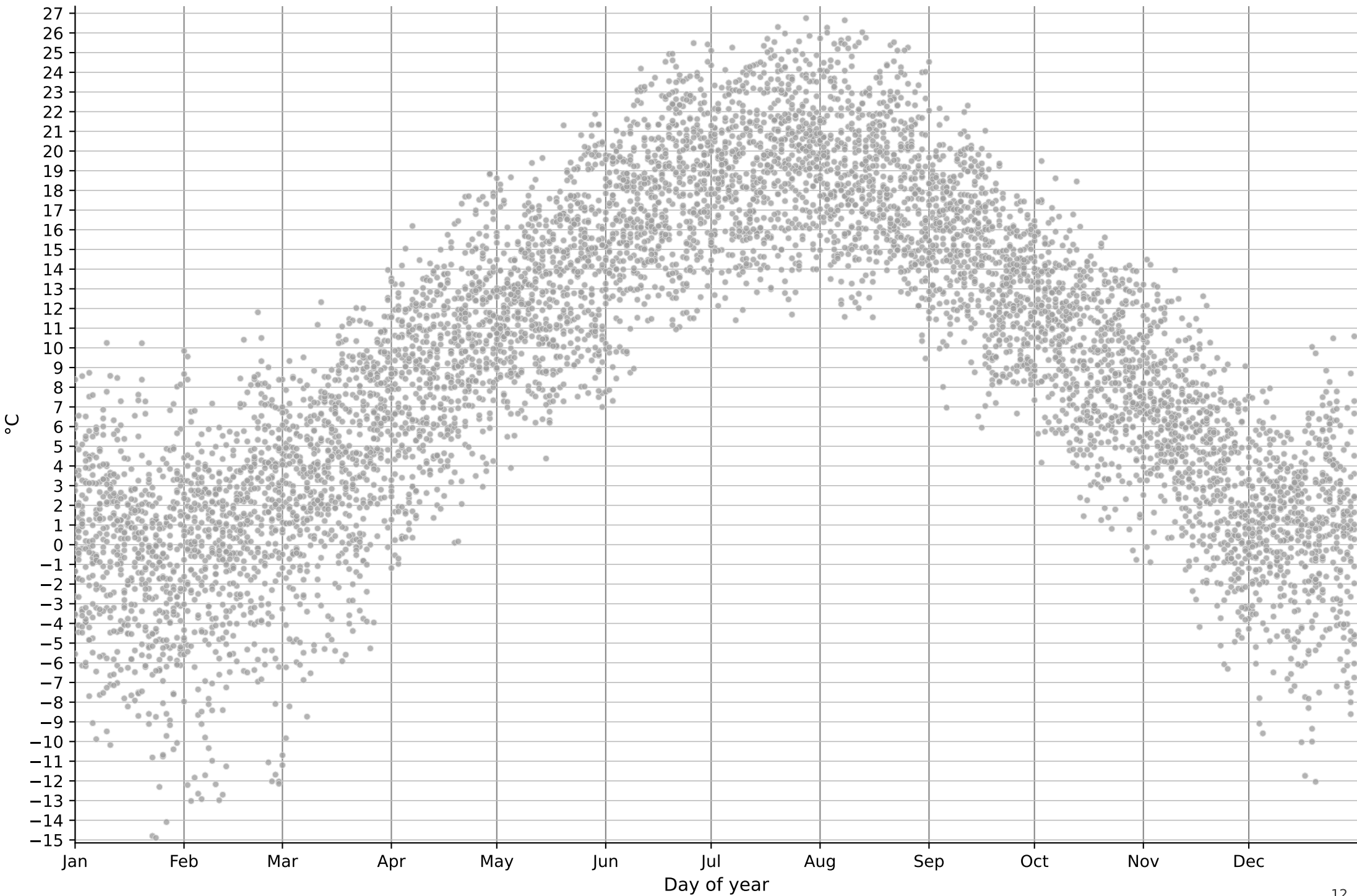
Share of the day's yield outside 09:00-15:00 winter time
Austria - Inning 48.182, 15.417



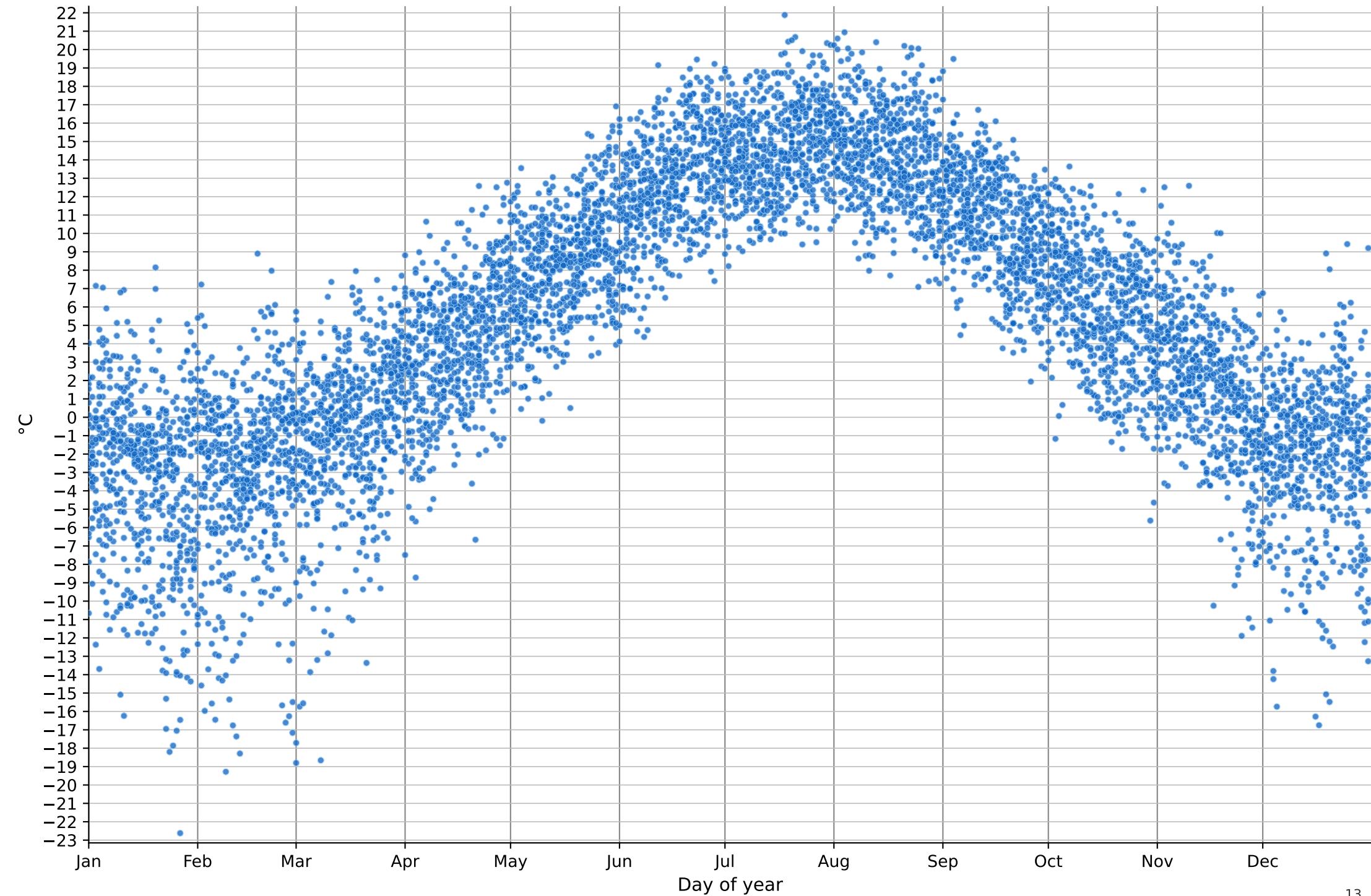
Highest temperature of each day
Austria - Inning 48.182, 15.417



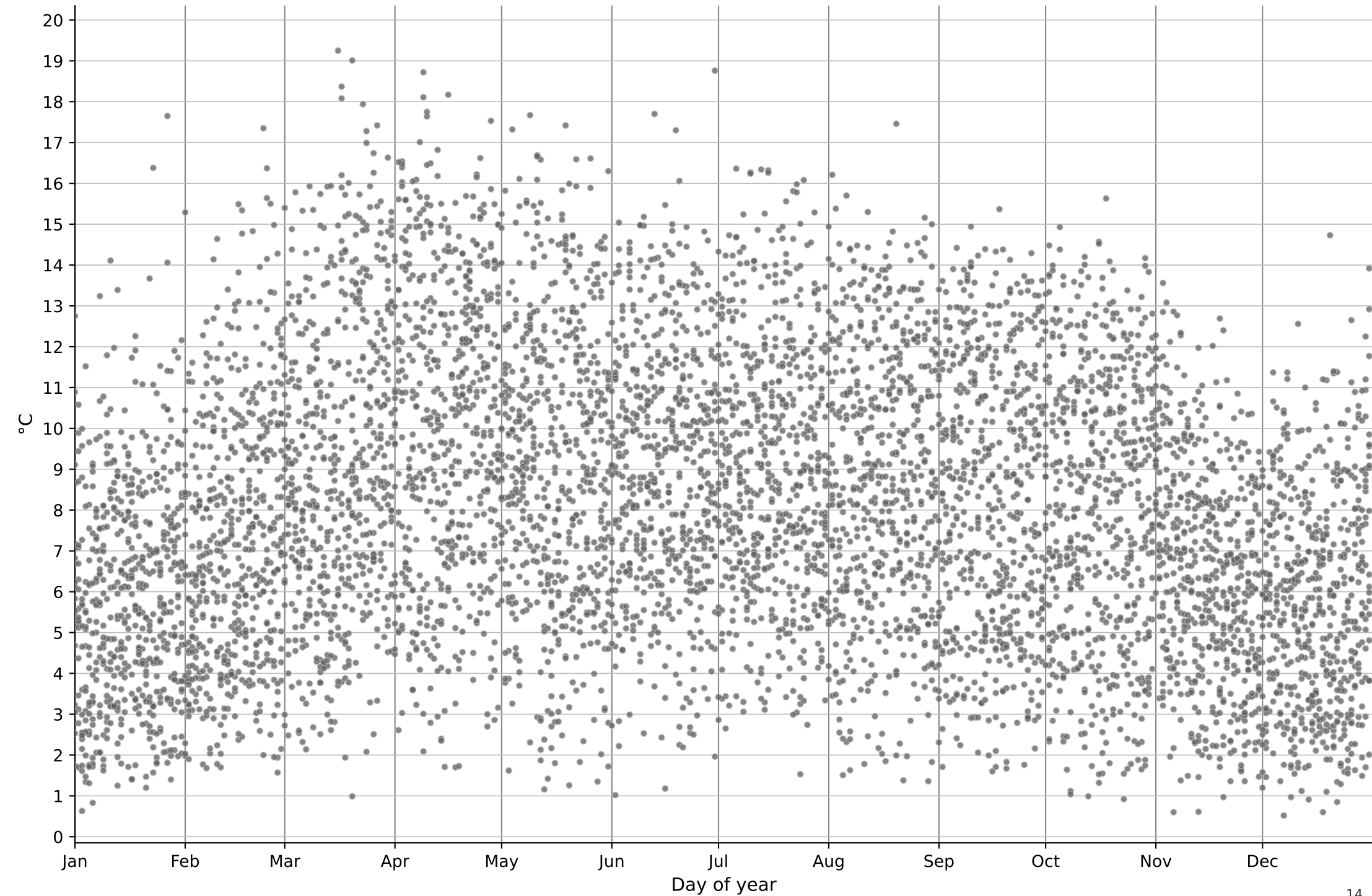
Average temperature of each day
Austria - Inning 48.182, 15.417



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 1°/0° 10740 Wp	Garage side wall south 90°/0° 3475 Wp	Garage side wall north 90°/180° 3475 Wp	Garage door side 90°/90° 700 Wp	Garage back side 90°/-90° 2540 Wp	All together
January	Maximum	32.84	7.26	7.26	8.02	9.10	19.76
	average	23.62	5.26	5.26	5.93	6.73	14.88
	minimum	17.95	4.09	4.09	4.60	5.29	11.80
February	Maximum	51.56	9.78	9.78	11.74	11.07	30.57
	average	41.81	8.23	8.23	10.69	9.69	25.72
	minimum	30.53	7.01	7.01	9.55	8.85	20.23
March	Maximum	103.67	40.02	16.17	20.69	20.57	64.78
	average	78.18	32.13	14.12	18.52	18.64	50.68
	minimum	60.95	23.96	12.21	16.23	16.11	40.73
April	Maximum	138.59	85.87	20.80	35.62	37.00	93.94
	average	110.61	68.54	18.98	32.57	33.18	76.41
	minimum	87.14	54.04	16.79	27.32	27.21	60.77
May	Maximum	144.59	75.98	26.21	49.99	44.67	97.69
	average	124.01	66.13	24.16	43.00	39.77	84.89
	minimum	91.48	48.94	22.30	34.42	32.92	64.02
June	Maximum	163.28	73.17	28.27	50.65	56.41	108.79
	average	135.71	62.75	26.40	45.09	48.98	91.89
	minimum	109.40	51.97	24.08	39.28	41.53	75.44
July	Maximum	158.88	77.19	27.83	49.85	48.86	106.24
	average	138.27	67.74	25.64	45.09	43.52	93.25
	minimum	102.76	50.02	23.06	36.77	33.52	70.23
August	Maximum	132.11	79.19	22.99	40.50	40.39	90.31
	average	117.75	70.61	19.99	36.73	36.67	81.14
	minimum	102.53	60.77	17.60	32.59	33.27	71.64
September	Maximum	104.79	59.73	16.42	24.07	22.91	69.54
	average	86.69	49.11	14.08	21.48	20.85	58.22
	minimum	69.95	40.19	11.80	18.89	18.24	47.76
October	Maximum	68.41	11.30	11.26	12.90	12.98	40.16
	average	54.55	9.83	9.80	11.44	11.69	33.06
	minimum	37.60	8.60	8.60	9.79	9.93	23.68
November	Maximum	33.54	6.47	6.47	7.53	7.71	20.26
	average	26.62	5.75	5.75	6.77	6.86	16.63
	minimum	20.26	5.33	5.33	6.04	6.01	13.13
December	Maximum	25.37	5.19	5.19	5.84	6.52	15.15
	average	19.18	4.19	4.19	4.82	5.42	12.05
	minimum	15.84	2.90	2.90	3.46	3.86	9.68
All years	Maximum	1005.5	478.1	182.9	291.4	295.1	670.0
	average	957.0	450.3	176.6	282.1	282.0	638.8
	minimum	908.1	423.9	171.8	274.0	269.5	609.6

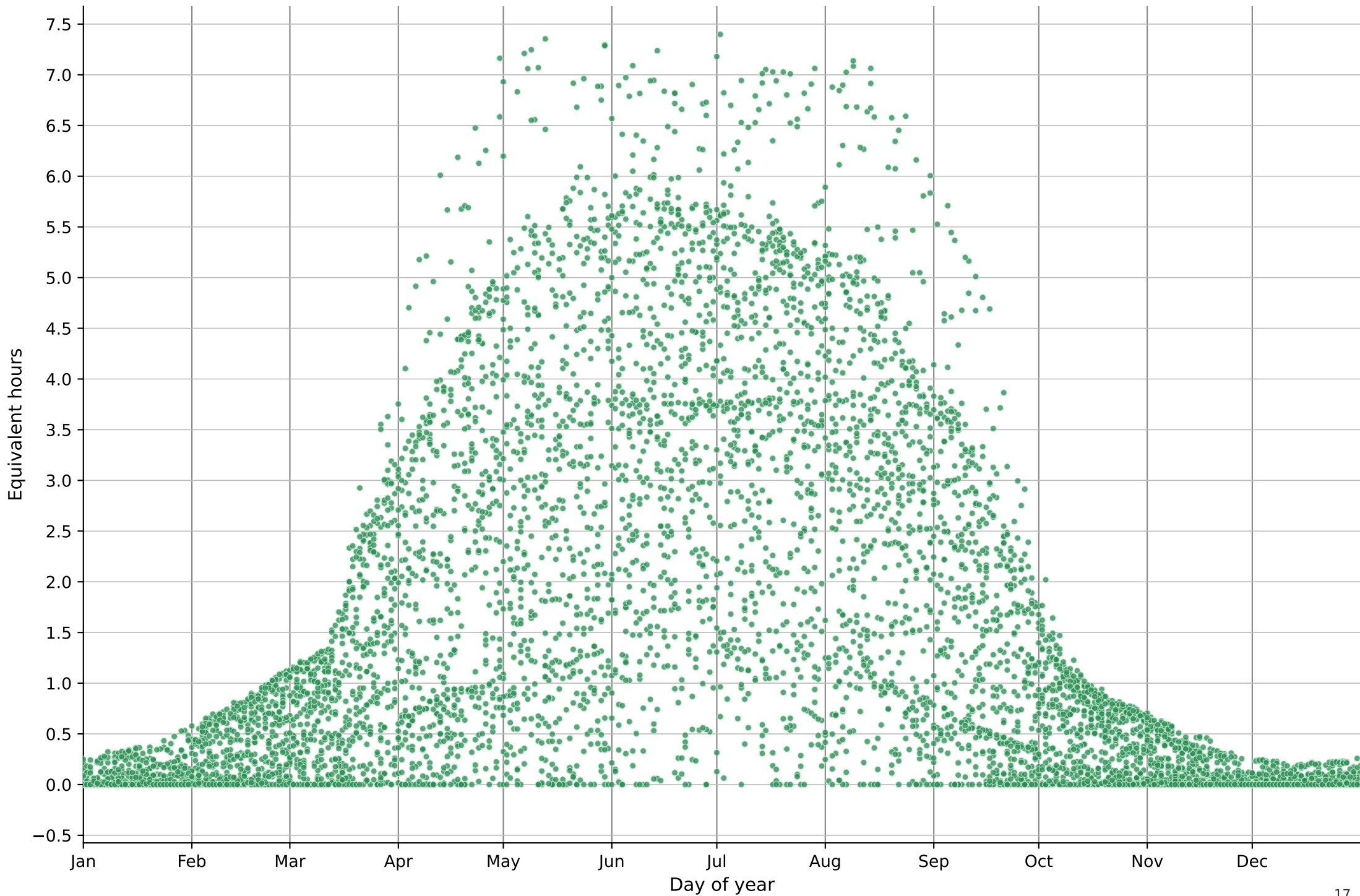
Highest combined yield hour: 2021-04-23 10:10 UTC 10732.7 W (0.513 W/Wp) of 20930 Wp installed. Use this hour to size battery charge power.

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

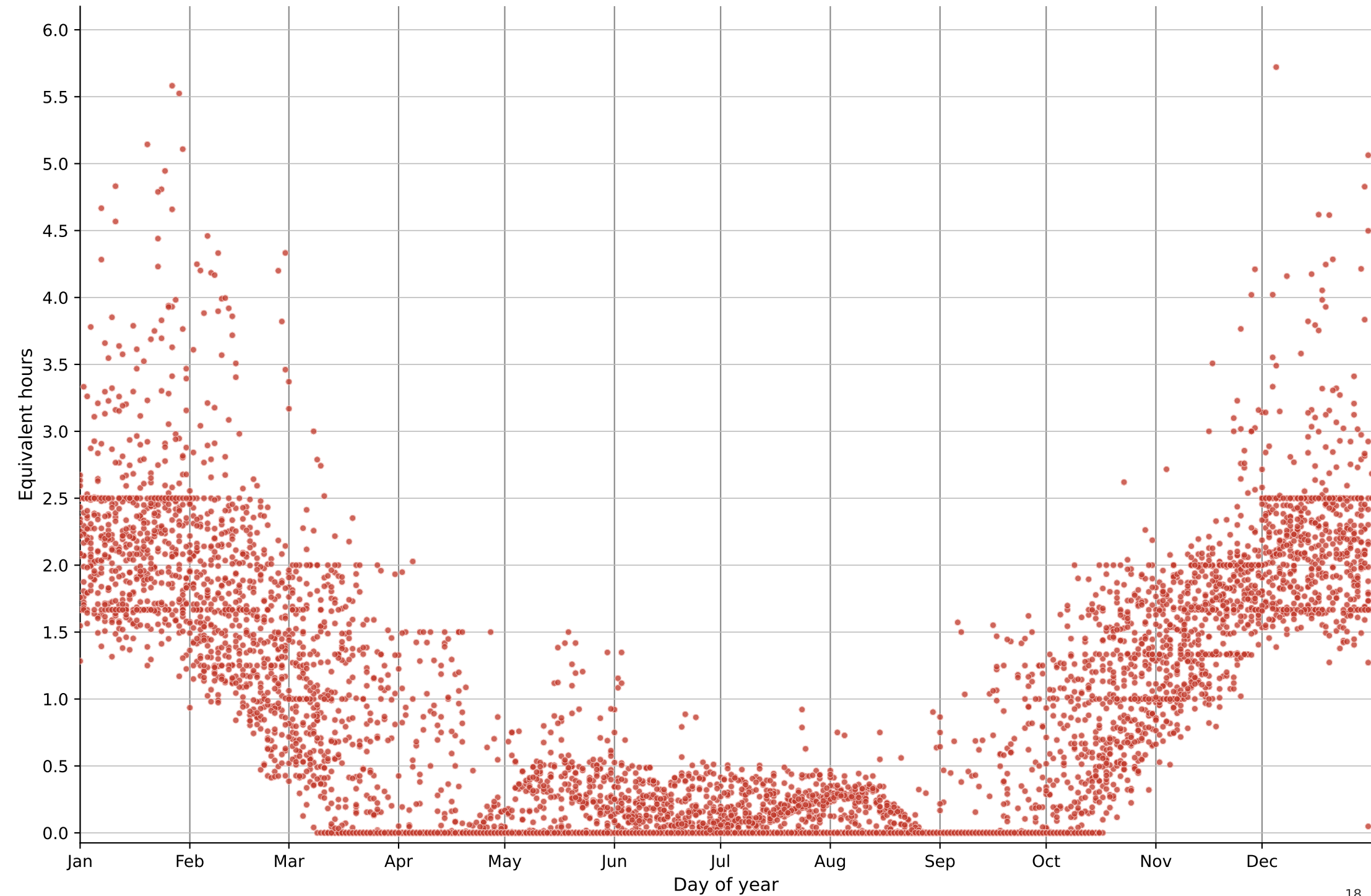
Month / year		Garage roof 1°/0° 10740 Wp	Garage side wall south 90°/0° 3475 Wp	Garage side wall north 90°/180° 3475 Wp	Garage door side 90°/90° 700 Wp	Garage back side 90°/-90° 2540 Wp	All together
January	Maximum	352.7	25.2	25.2	5.6	23.1	413.6
	average	253.6	18.3	18.3	4.2	17.1	311.5
	minimum	192.8	14.2	14.2	3.2	13.4	246.9
February	Maximum	553.7	34.0	34.0	8.2	28.1	639.8
	average	449.0	28.6	28.6	7.5	24.6	538.4
	minimum	327.9	24.3	24.3	6.7	22.5	423.5
March	Maximum	1113.4	139.1	56.2	14.5	52.2	1355.8
	average	839.7	111.7	49.1	13.0	47.3	1060.7
	minimum	654.6	83.3	42.4	11.4	40.9	852.4
April	Maximum	1488.4	298.4	72.3	24.9	94.0	1966.2
	average	1188.0	238.2	65.9	22.8	84.3	1599.2
	minimum	935.8	187.8	58.3	19.1	69.1	1272.0
May	Maximum	1552.9	264.0	91.1	35.0	113.5	2044.6
	average	1331.9	229.8	83.9	30.1	101.0	1776.8
	minimum	982.4	170.1	77.5	24.1	83.6	1339.9
June	Maximum	1753.7	254.3	98.2	35.5	143.3	2277.0
	average	1457.5	218.1	91.8	31.6	124.4	1923.3
	minimum	1175.0	180.6	83.7	27.5	105.5	1578.9
July	Maximum	1706.4	268.2	96.7	34.9	124.1	2223.5
	average	1485.0	235.4	89.1	31.6	110.5	1951.6
	minimum	1103.6	173.8	80.1	25.7	85.1	1469.8
August	Maximum	1418.8	275.2	79.9	28.4	102.6	1890.2
	average	1264.6	245.4	69.5	25.7	93.1	1698.3
	minimum	1101.1	211.2	61.2	22.8	84.5	1499.4
September	Maximum	1125.4	207.6	57.1	16.8	58.2	1455.5
	average	931.1	170.6	48.9	15.0	53.0	1218.6
	minimum	751.2	139.7	41.0	13.2	46.3	999.6
October	Maximum	734.7	39.3	39.1	9.0	33.0	840.6
	average	585.9	34.2	34.1	8.0	29.7	691.8
	minimum	403.9	29.9	29.9	6.9	25.2	495.7
November	Maximum	360.3	22.5	22.5	5.3	19.6	424.0
	average	285.9	20.0	20.0	4.7	17.4	348.0
	minimum	217.6	18.5	18.5	4.2	15.3	274.8
December	Maximum	272.5	18.0	18.0	4.1	16.6	317.1
	average	206.0	14.5	14.5	3.4	13.8	252.3
	minimum	170.1	10.1	10.1	2.4	9.8	202.5
All years	Maximum	10799	1662	636	204	750	14023
	average	10278	1565	614	197	716	13370
	minimum	9753	1473	597	192	684	12759

Highest combined yield hour: 2021-04-23 10:10 UTC 10732.7 W (0.513 W/Wp) of 20930 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: 46 days with an emergency: 26
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
Export to grid													
month Maximum	41	180	560	1109	1343	1611	1609	1240	788	268	85	40	7276
month average	23	114	369	766	1020	1254	1292	1045	544	199	47	14	6687
month minimum	0	45	220	443	615	915	746	803	348	124	21	0	5909
day Maximum	6.4	13.4	43.6	86.0	88.3	86.9	88.8	85.7	68.5	24.2	8.5	3.1	88.8
day average	0.7	4.0	11.9	25.5	32.9	41.8	41.7	33.7	18.1	6.4	1.6	0.4	18.3
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
Import from grid													
month Maximum	1084	953	409	118	122	83	53	41	151	445	741	1114	4341
month average	844	572	261	47	57	42	41	25	44	287	585	821	3626
month minimum	695	422	140	1	15	15	28	7	0	173	494	654	3176
day Maximum	67.0	53.5	40.4	24.3	18.0	16.2	11.1	10.8	19.5	31.4	50.5	68.7	68.7
day average	27.2	20.3	8.4	1.6	1.8	1.4	1.3	0.8	1.5	9.3	19.5	26.5	9.9
day minimum	14.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.6	0.0
Total energy used for house													
month Maximum	1346	1297	1021	773	696	573	560	571	641	786	904	1268	9649
month average	1031	910	875	709	640	535	519	525	582	717	812	964	8819
month minimum	882	778	787	615	574	494	501	498	516	640	761	851	8414
day Maximum	73.3	66.6	60.8	33.7	27.2	25.9	23.7	23.4	25.9	31.8	44.3	62.8	73.3
day average	33.3	32.3	28.2	23.6	20.6	17.8	16.7	16.9	19.4	23.1	27.1	31.1	24.1
day minimum	16.3	21.7	20.1	15.7	15.6	15.6	15.5	15.5	15.5	16.1	19.5	22.6	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	10	46	129	183	222	231	174	107	16	5	2	941
month average	1	7	28	81	130	176	184	143	61	12	3	1	826
month minimum	0	3	15	29	72	131	98	98	27	6	1	0	722
day Maximum	0.4	0.9	5.6	13.7	14.4	14.4	14.7	14.9	10.5	3.4	0.5	0.2	14.9
day average	0.0	0.2	0.9	2.7	4.2	5.9	5.9	4.6	2.0	0.4	0.1	0.0	2.3
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
Import													
month Maximum	261	241	99	21	23	16	13	10	25	103	180	271	1015
month average	198	135	61	8	12	10	10	6	7	66	136	192	841
month minimum	162	98	32	0	3	4	6	2	0	39	114	152	733
day Maximum	16.8	15.0	11.1	4.8	3.1	2.5	2.0	1.9	3.6	7.8	13.1	16.3	16.8
day average	6.4	4.8	2.0	0.3	0.4	0.3	0.3	0.2	0.2	2.1	4.5	6.2	2.3
day minimum	3.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.1	0.0
Peak grid fee													
month Maximum	46	42	42	19	19	19	19	19	19	25	31	36	297
month average	34	33	27	17	17	13	10	13	17	25	26	32	263
month minimum	32	32	25	3	11	7	7	7	0	25	25	32	233
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	302	283	140	40	42	35	28	27	44	128	211	307	1310
month average	232	167	88	25	29	23	20	19	24	92	162	224	1104
month minimum	193	130	57	4	17	13	16	9	0	65	139	184	976
day Maximum	16.8	15.0	11.1	4.8	3.1	2.5	2.0	1.9	3.6	7.8	13.1	16.3	16.8
day average	6.4	4.8	2.0	0.3	0.4	0.3	0.3	0.2	0.2	2.1	4.5	6.2	2.3
day minimum	3.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.1	0.0
Balance													
month Maximum	-191	-119	-13	123	153	197	208	157	93	-51	-135	-182	-125
month average	-231	-161	-60	56	101	153	164	124	38	-80	-159	-223	-278
month minimum	-302	-279	-117	-9	36	102	73	90	-5	-122	-208	-307	-588
day Maximum	-3.0	-0.3	5.6	13.7	14.2	14.4	14.7	14.9	10.5	3.4	-1.0	-0.1	14.9
day average	-6.4	-4.5	-1.1	2.4	3.8	5.5	5.6	4.4	1.8	-1.8	-4.5	-6.2	-0.0
day minimum	-16.8	-15.0	-10.8	-4.8	-3.0	-2.4	-1.9	-1.8	-3.6	-7.8	-13.1	-16.3	-16.8

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	41	180	560	1109	1343	1611	1609	1240	788	268	85	40	7276
month average	23	114	369	766	1020	1254	1292	1045	544	199	47	14	6687
month minimum	0	45	220	443	615	915	746	803	348	124	21	0	5909
day Maximum	6.4	13.4	43.6	86.0	88.3	86.9	88.8	85.7	68.5	24.2	8.5	3.1	88.8
day average	0.7	4.0	11.9	25.5	32.9	41.8	41.7	33.7	18.1	6.4	1.6	0.4	18.3
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
Export during high price hours													
month Maximum	0	0	92	526	760	955	1003	745	451	21	0	0	3898
month average	0	0	38	305	541	763	798	602	237	2	0	0	3285
month minimum	0	0	-0	95	281	545	412	412	77	0	0	0	2823
day Maximum	0.0	0.0	21.3	57.5	59.7	61.6	62.1	62.6	43.4	11.4	0.0	0.0	62.6
day average	0.0	0.0	1.2	10.2	17.4	25.4	25.7	19.4	7.9	0.1	0.0	0.0	9.0
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	9	46	133	216	258	279	305	244	149	66	12	2	1462
month average	3	28	96	166	202	235	253	207	114	41	5	0	1349
month minimum	0	9	62	120	143	183	185	177	73	17	0	0	1233
day Maximum	1.3	3.8	7.5	10.3	12.6	12.4	12.7	12.1	8.8	4.0	1.1	0.5	12.7
day average	0.1	1.0	3.1	5.5	6.5	7.8	8.2	6.7	3.8	1.3	0.2	0.0	3.7
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
Export during low price hours													
month Maximum	39	138	346	409	381	378	309	315	236	202	73	38	2296
month average	20	86	236	295	278	257	241	236	193	156	42	13	2053
month minimum	0	30	140	214	183	172	148	170	161	107	21	0	1812
day Maximum	5.3	9.7	29.8	43.0	49.5	41.9	39.7	38.8	39.7	16.3	7.3	2.9	49.5
day average	0.7	3.0	7.6	9.8	9.0	8.6	7.8	7.6	6.4	5.0	1.4	0.4	5.6
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

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	837	819	517	292	201	99	74	84	166	288	421	768	3811
month average	527	451	372	229	148	62	34	40	111	221	330	464	2988
month minimum	378	322	285	140	85	24	16	11	48	148	279	351	2588
day Maximum	55.4	49.4	44.1	17.6	11.1	10.0	7.9	7.8	9.9	15.6	28.2	46.3	55.4
day average	17.0	16.0	12.0	7.6	4.8	2.1	1.1	1.3	3.7	7.1	11.0	15.0	8.2
day minimum	0.0	5.6	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	3.7	6.6	0.0
Cooling													
month Maximum	0.00	0.00	0.00	0.00	0.00	0.59	5.93	8.36	0.47	0.00	0.00	0.00	11.63
month average	0.00	0.00	0.00	0.00	0.00	0.03	0.99	1.28	0.02	0.00	0.00	0.00	2.33
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	0.59	4.44	4.45	0.47	0.00	0.00	0.00	4.45
day average	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.04	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
DHW													
month Maximum	75	72	70	62	61	55	52	53	54	64	63	66	724
month average	70	64	69	59	59	53	49	50	52	62	63	66	715
month minimum	70	62	68	55	55	50	48	48	48	59	62	65	703
day Maximum	4.3	3.2	2.6	2.1	2.1	2.1	1.9	2.0	2.0	2.1	2.1	2.7	4.3
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
Direct electric													
month Maximum	359	398	136	6	0	0	0	0	0	3	56	294	764
month average	99	78	26	1	0	0	0	0	0	0	8	53	265
month minimum	5	0	0	0	0	0	0	0	0	0	0	1	19
day Maximum	39.4	33.4	28.1	4.7	0.0	0.0	0.0	0.0	0.0	1.3	12.2	30.3	39.4
day average	3.2	2.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7	0.7
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

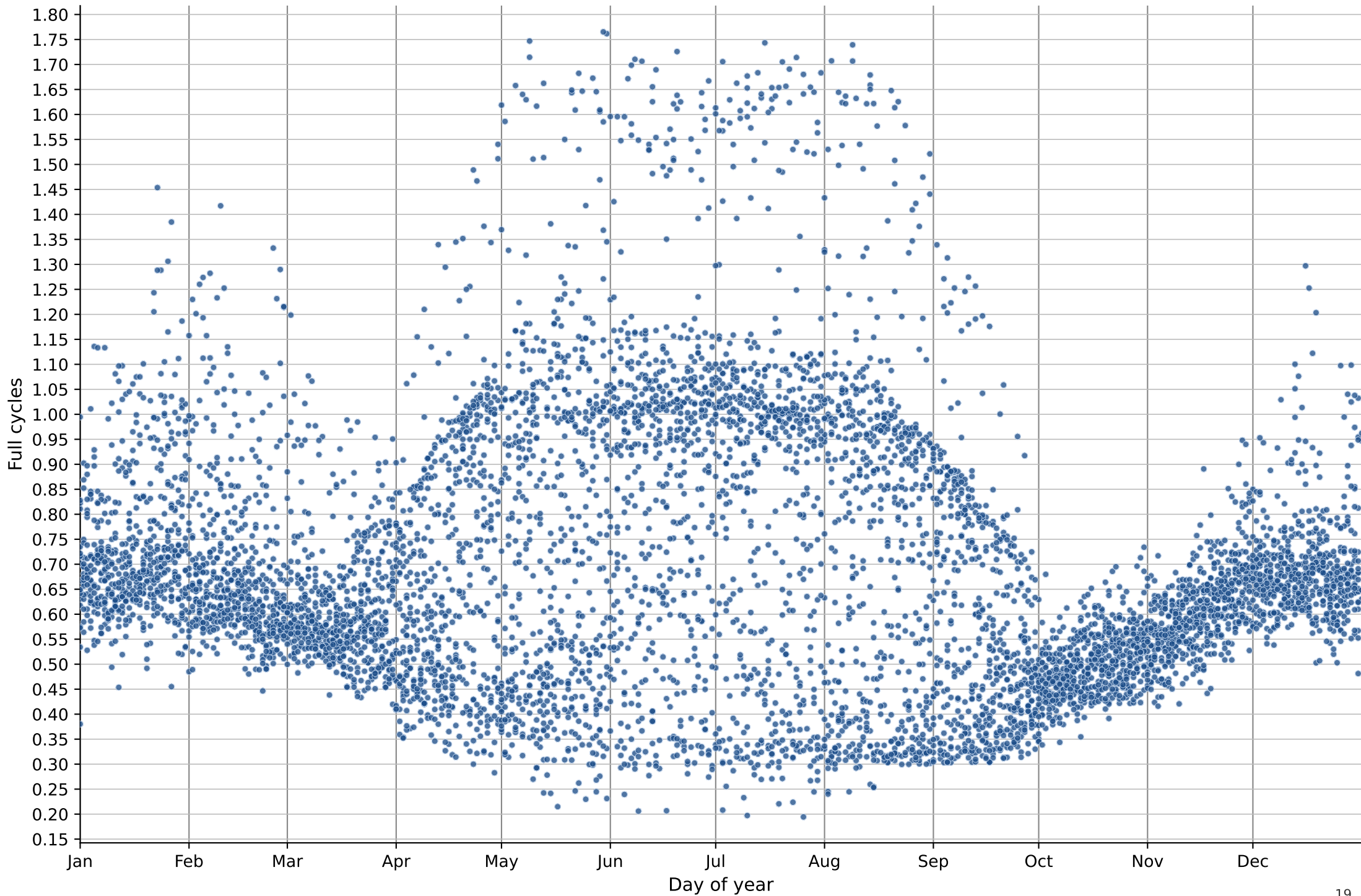
Heating, cooling and DHW are electricity. Direct electric is the part the heat pump could not cover.

Battery
Austria - Inning 48.182, 15.417

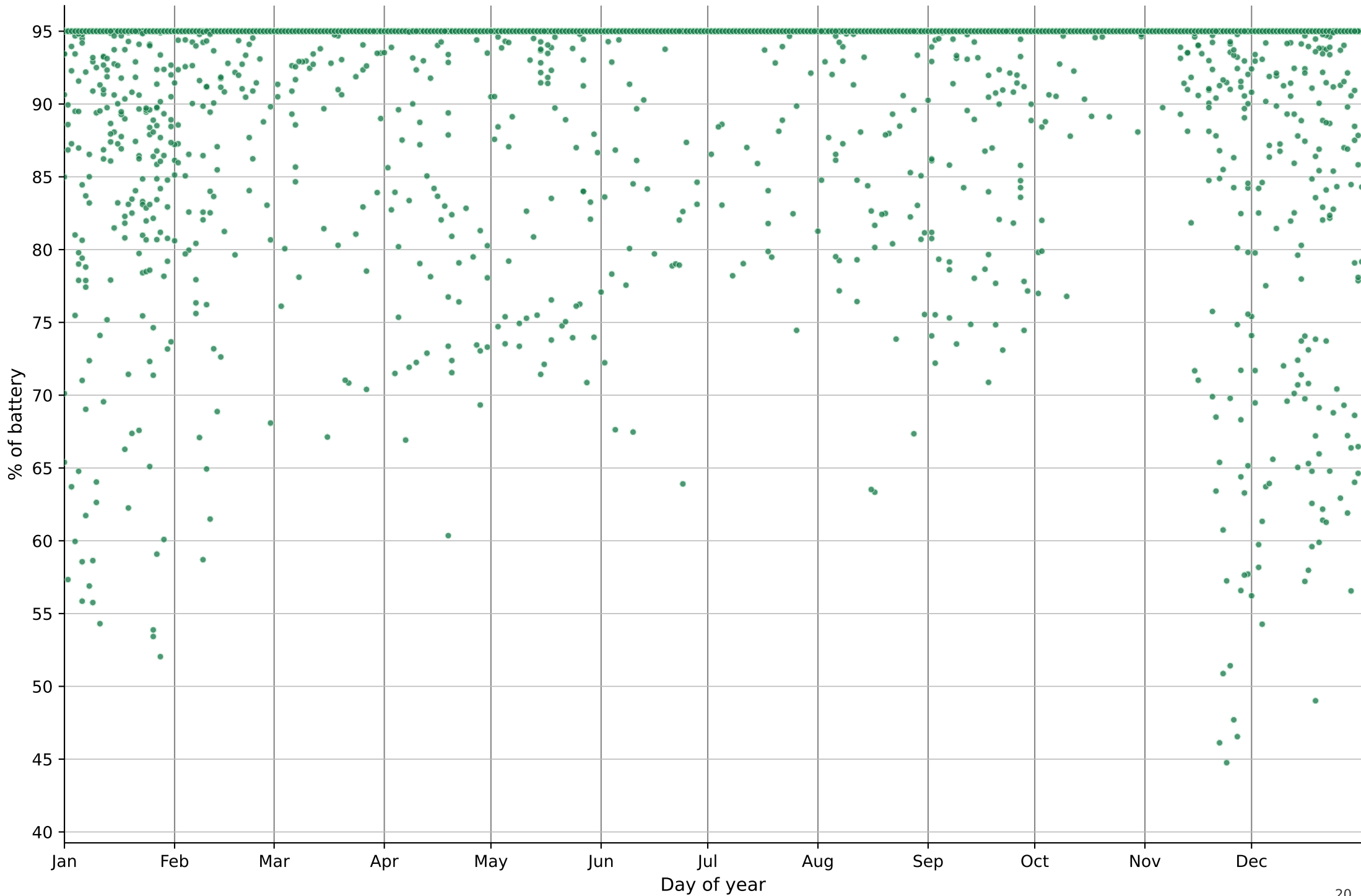
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Wasted													
month Maximum	0	0	0	166	117	163	111	93	86	0	0	0	575
month average	0	0	0	97	89	84	78	60	59	0	0	0	467
month minimum	0	0	0	40	59	32	35	25	30	0	0	0	359
day Maximum	0.0	0.0	0.0	40.2	34.8	52.2	23.9	34.3	28.9	0.0	0.0	0.0	52.2
day average	0.0	0.0	0.0	3.2	2.9	2.8	2.5	1.9	2.0	0.0	0.0	0.0	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
Full cycles													
month Maximum	29.27	26.08	22.02	24.33	27.79	29.65	30.88	26.16	20.92	16.93	20.41	27.50	263.76
month average	22.84	19.48	18.98	20.65	23.55	26.28	26.57	23.30	17.21	15.44	18.19	21.50	253.98
month minimum	19.74	16.33	16.72	16.79	18.75	21.74	18.76	19.95	14.50	14.01	16.87	19.01	240.49
day Maximum	1.45	1.42	1.20	1.62	1.77	1.73	1.74	1.74	1.34	0.73	0.95	1.30	1.77
day average	0.74	0.69	0.61	0.69	0.76	0.88	0.86	0.75	0.57	0.50	0.61	0.69	0.70
day minimum	0.38	0.45	0.42	0.28	0.21	0.21	0.19	0.24	0.30	0.34	0.42	0.48	0.19
Charge C													
month Maximum	0.10	0.14	0.22	0.23	0.23	0.23	0.22	0.21	0.21	0.15	0.10	0.07	2.05
month average	0.09	0.13	0.21	0.22	0.22	0.22	0.22	0.21	0.20	0.13	0.10	0.07	2.01
month minimum	0.08	0.11	0.20	0.21	0.22	0.21	0.21	0.20	0.19	0.12	0.09	0.06	1.98
day Maximum	0.10	0.14	0.22	0.23	0.23	0.23	0.22	0.21	0.21	0.15	0.10	0.07	0.23
day average	0.05	0.08	0.13	0.17	0.17	0.18	0.18	0.17	0.14	0.09	0.05	0.04	0.12
day minimum	0.01	0.01	0.01	0.03	0.02	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.01
Discharge C													
month Maximum	0.15	0.15	0.27	0.28	0.28	0.28	0.28	0.28	0.28	0.24	0.11	0.14	2.51
month average	0.10	0.10	0.21	0.28	0.28	0.28	0.28	0.28	0.28	0.07	0.07	0.09	2.32
month minimum	0.07	0.06	0.06	0.27	0.28	0.28	0.28	0.28	0.26	0.05	0.05	0.06	2.09
day Maximum	0.15	0.15	0.27	0.28	0.28	0.28	0.28	0.28	0.28	0.24	0.11	0.14	0.28
day average	0.07	0.06	0.07	0.14	0.17	0.22	0.22	0.19	0.13	0.05	0.05	0.06	0.12
day minimum	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03

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



Battery max charge state per day (45 kWh = 100 %)
Austria - Inning 48.182, 15.417



Battery min charge state per day (45 kWh = 100 %)
Austria - Inning 48.182, 15.417

