Scenario — PV
GEMINI-60-house-part-of-a-settlement Argentina - La Quiaca -22.100, -65.585

Name	Slope °	Azimuth °	Wp	Wall d/h m	Face	Bifacial	Wp counted
Roof East	22	-90	19,800	—	front	—	yes
Roof West	22	90	19,800	—	front	—	yes
Terrace railing south	90	0	4,620	5 / 4	front	—	yes
Terrace railing north	90	180	4,620	5 / 4	front	—	yes
share central structure east part	8	-90	20,460	—	front	—	yes
share central strucure west part	8	90	20,460	—	front	—	yes
Total counted			89,760				

Location: Ideal for energy-intensive industries using just-in-time produced hydrogen by solar 24-electricity.
Database PVGIS-ERA5 2005–2023 loss 14 % azimuth 0 = south, 90 = west, −90 = east.
Price bands and charts use UTC-4 from longitude (15° per hour), not the political time zone.
Peak hour 2022-11-13 12:30 local (16:30 UTC) 79,637 W 0.887 W/Wp of 89,760 Wp.
Database gaps: 0 days with 0 yield while the sun reached the horizon at noon. 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
GEMINI-60-house-part-of-a-settlement Argentina - La Quiaca -22.100, -65.585

Chapter	Parameter	Value
Building	Design out / in / heat	-10.0 °C / 20.0 °C / 1,600 W
	Heat on / cool on / ground	22.0 °C / 25.0 °C / 10.0 °C
	Curve / flow min / max	0.3 / 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 42.0 °C 8–18 h
	Water out of the pipe Q1–Q4	13 °C 9 °C 7 °C 12 °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	257.2 kWh C 0.5 5 / 95 / 50 %
	Nameplate	—
	Charge / discharge η	95 % / 90 %
Grid	Inverter / grid connection	68.0 kW / 34.0 kW
	Max export	34.0 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 @ 100.0 kW night 10.0 kWh @ 11.0 kW

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

Records 1–10 contribution of each PV
Argentina - La Quiaca -22.100, -65.585

PV	2022-11-13 16:30	2022-11-13 15:30	2010-11-19 15:30	2010-11-05 16:30	2007-11-02 15:30	2010-11-05 15:30	2017-11-20 15:30	2015-10-14 16:30	2010-11-19 16:30	2007-11-09 15:30
Roof East	17,467	19,064	18,875	17,223	18,826	18,807	18,845	17,146	17,277	18,793
Roof West	18,713	17,085	16,894	18,512	16,867	16,880	16,851	18,435	18,407	16,879
Terrace railing south	3,420	3,429	3,483	3,259	3,197	3,259	3,486	2,766	3,465	3,329
Terrace railing north	634	643	567	796	857	801	552	1,402	564	706
share central structure east part	19,467	20,056	19,837	19,205	19,814	19,789	19,804	19,158	19,200	19,772
share central strucure west part	19,936	19,312	19,094	19,689	19,078	19,065	19,056	19,643	19,624	19,054
Watt at record	79,637	79,588	78,751	78,684	78,639	78,601	78,595	78,548	78,538	78,533
Percent of installed peak	88.7	88.7	87.7	87.7	87.6	87.6	87.6	87.5	87.5	87.5

Values are watts at that hour. Date and time are UTC. Record 79,637 W (88.7 % of 89,760 Wp).

Hours at or above a share of the record
Argentina - La Quiaca -22.100, -65.585

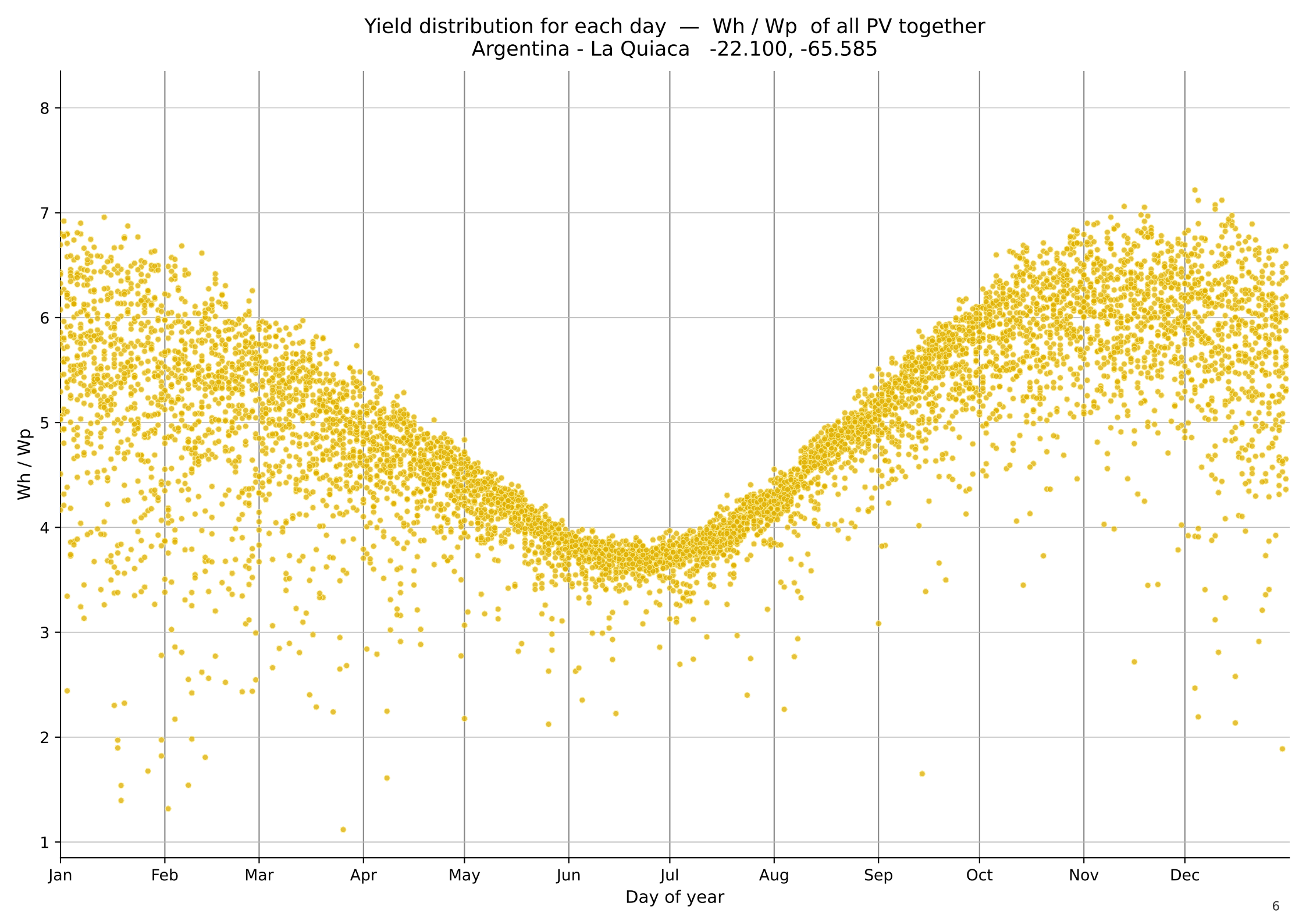
Of the record	Hours	Watts
98 %	16	78,044 W
96 %	106	76,451 W
94 %	358	74,858 W
92 %	879	73,266 W
90 %	1,870	71,673 W

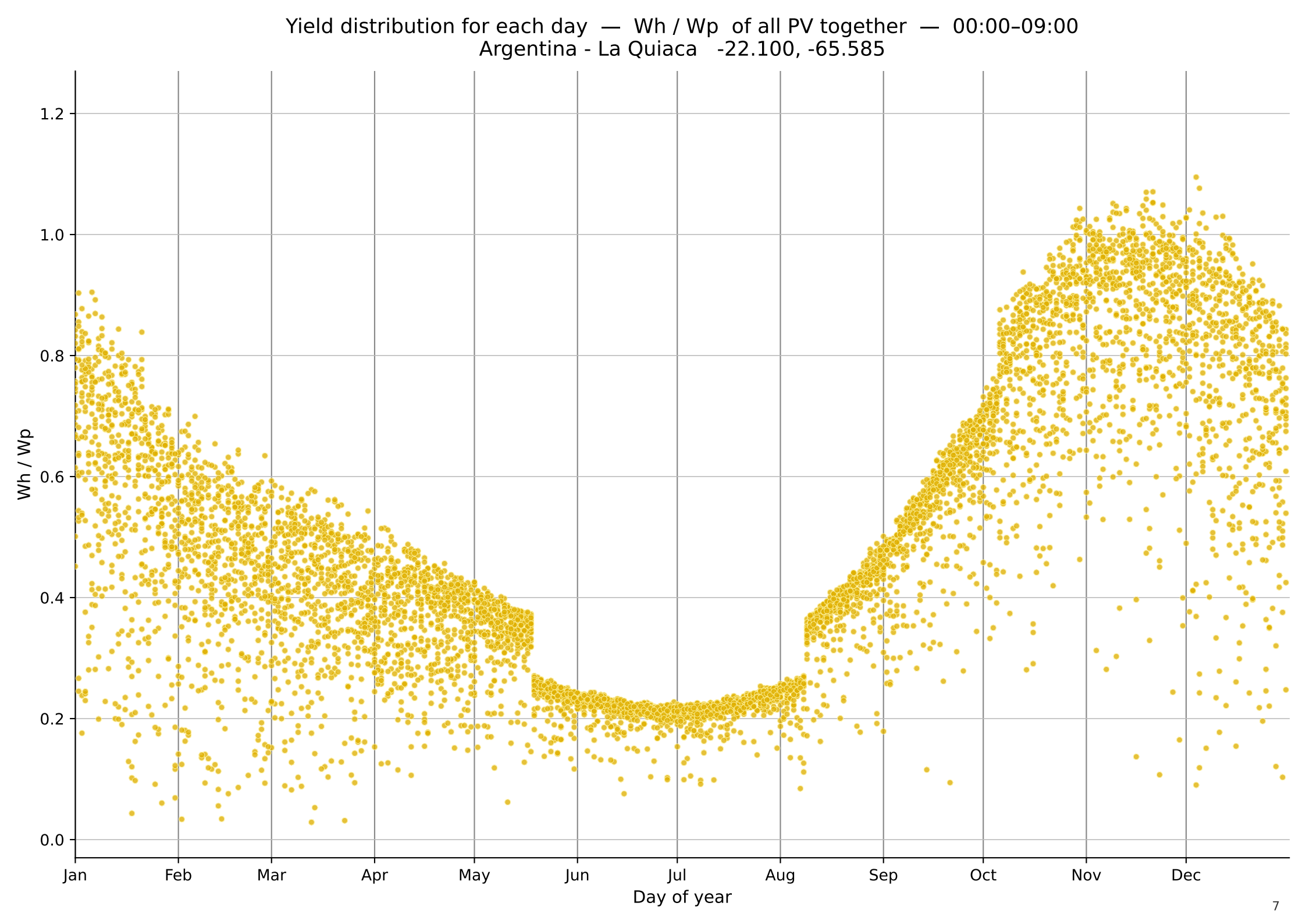
Record hour = 79,637 W combined.

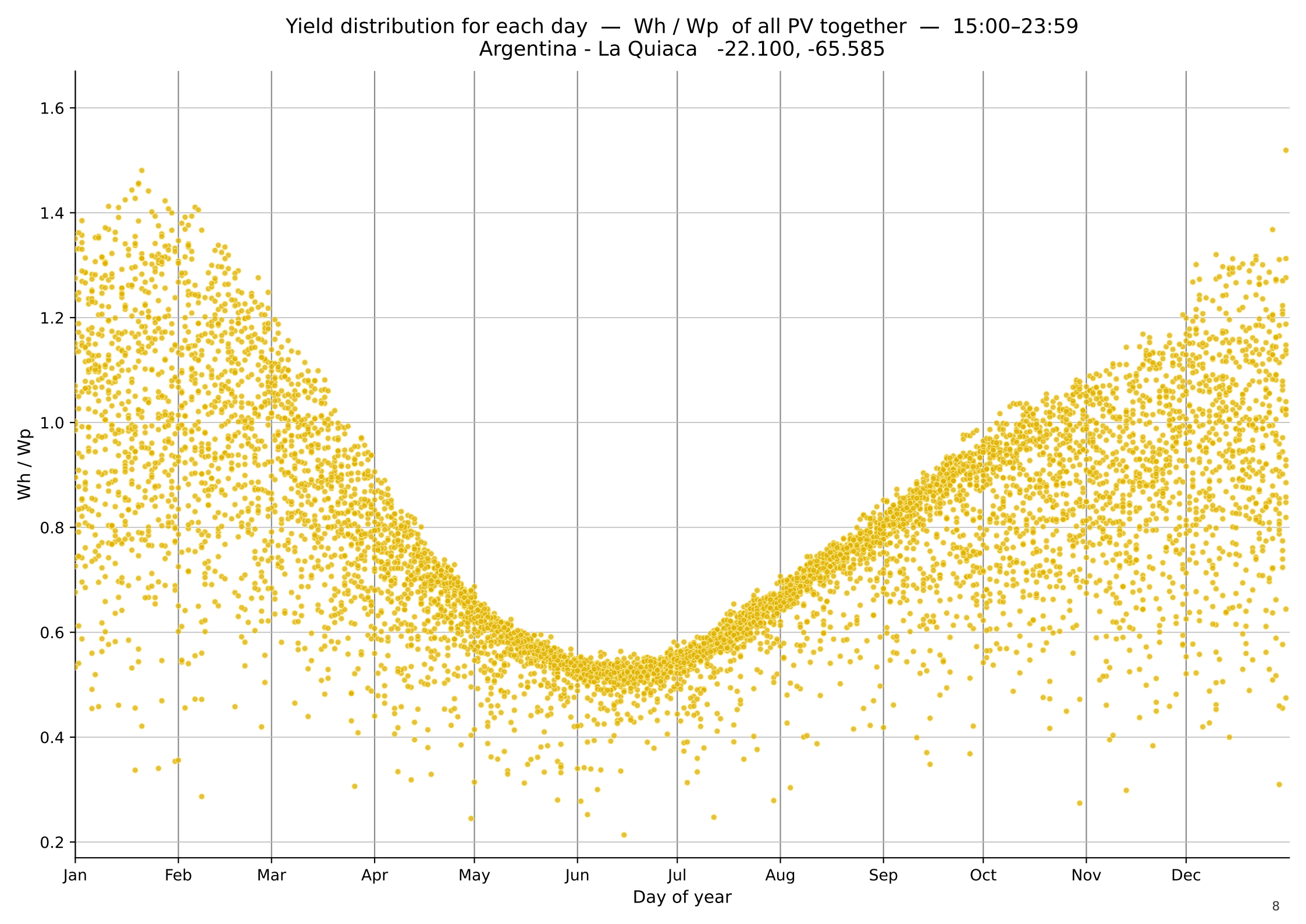
Records of each photovoltaic field
Argentina - La Quiaca -22.100, -65.585

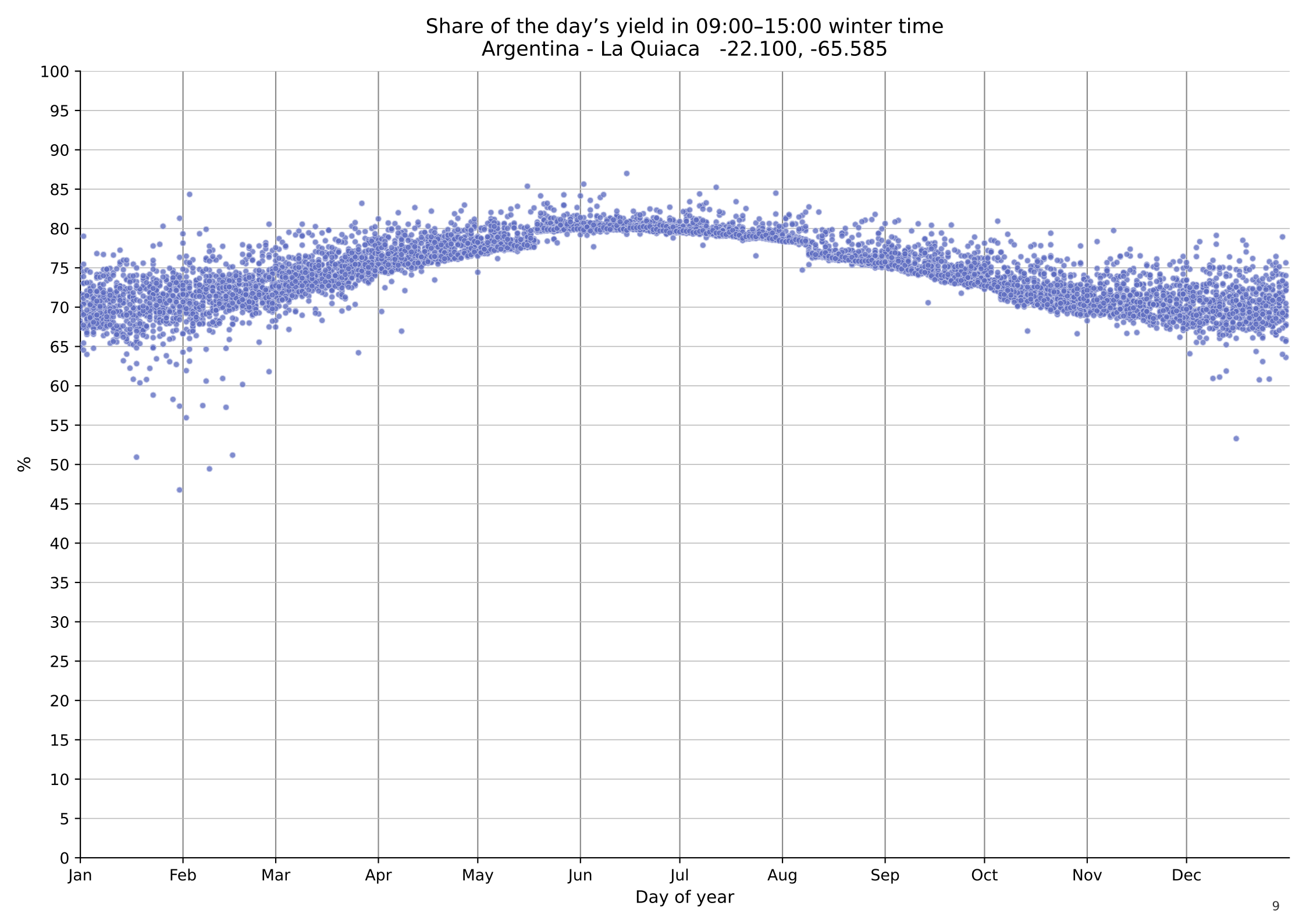
PV	Date	Watts	%	h ≥98%	h ≥96%	h ≥94%	h ≥92%	h ≥90%
Roof East	2022-11-13 14:30	19,467	98.3	13	67	286	700	1508
Roof West	2022-11-13 17:30	19,218	97.1	10	53	213	593	1275
Terrace railing south	2007-12-10 15:30	3,652	79.0	15	64	198	533	1050
Terrace railing north	2010-07-18 16:30	3,536	76.5	3	47	265	924	1954
share central structure east part	2022-11-13 15:30	20,056	98.0	8	57	228	634	1421
share central strucure west part	2022-11-13 16:30	19,936	97.4	7	56	221	615	1355

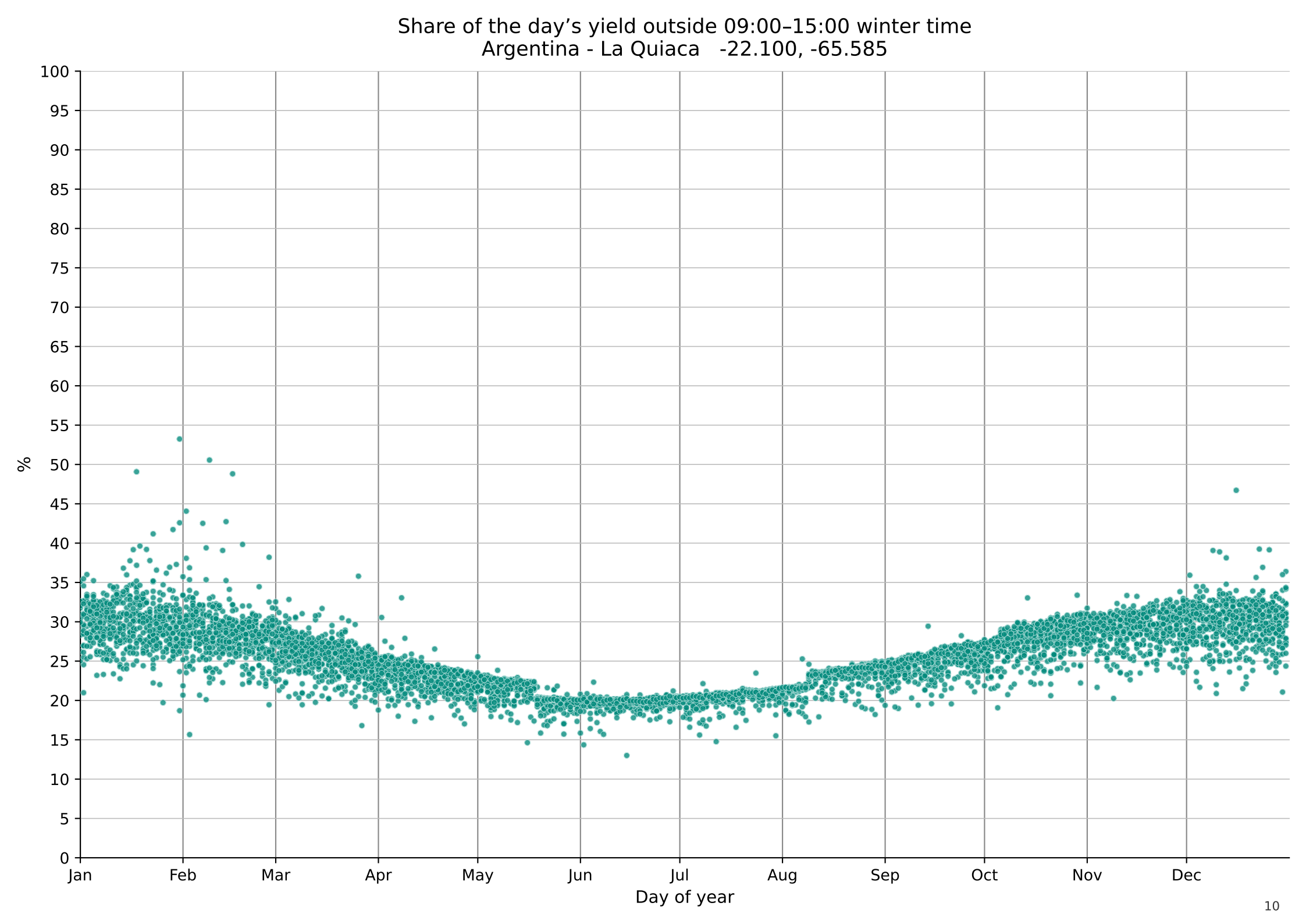
Watts is the highest hour of that field. % is of its own Wp. Hours are the count of hours at or above that share of its own record. Use this to size the MPPT or the inverter for that field.

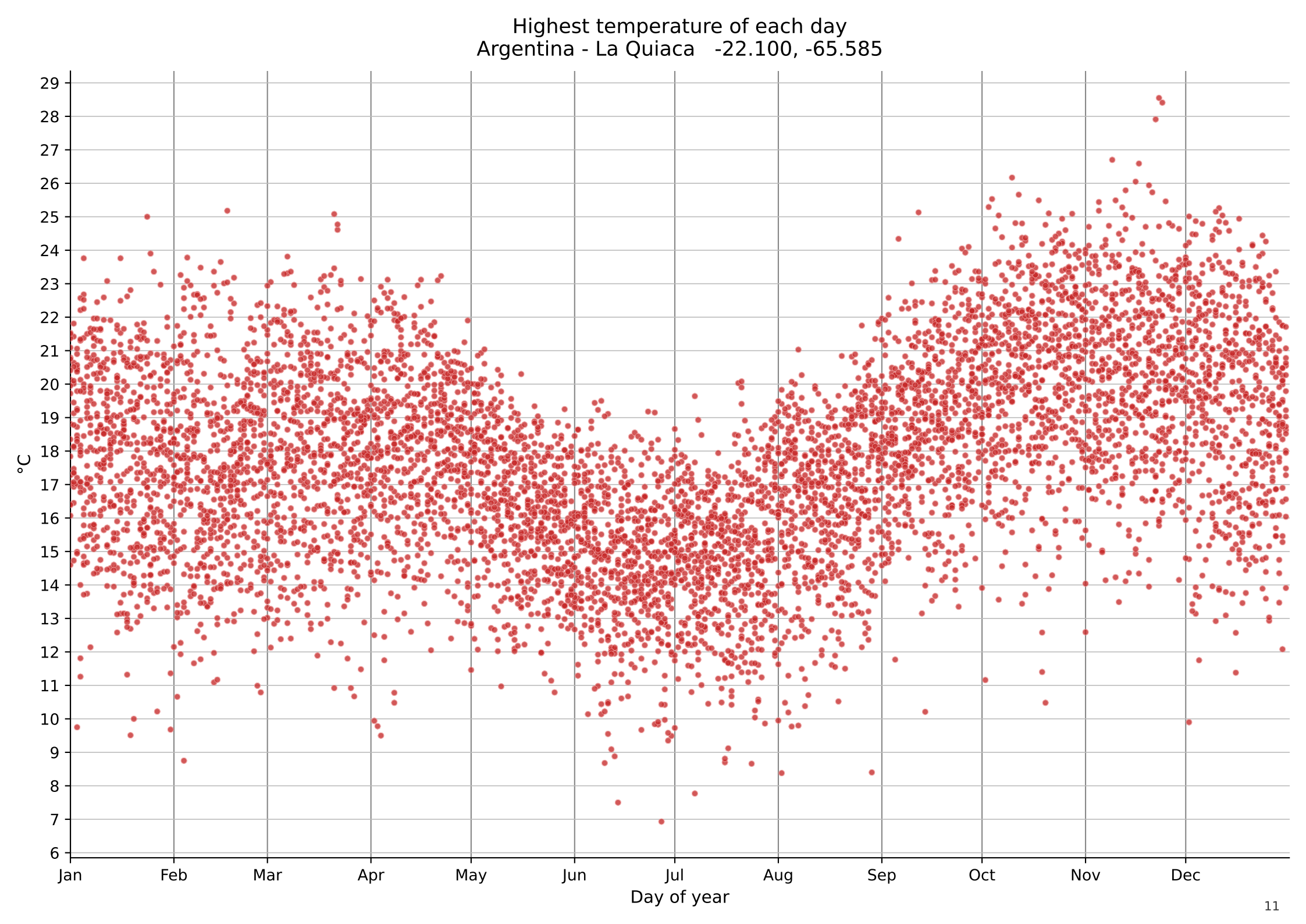

Yield distribution for each day — Wh / Wp of all PV together
Argentina - La Quiaca -22.100, -65.585
Wh / Wp
8
7
6
5
4
3
2
1
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

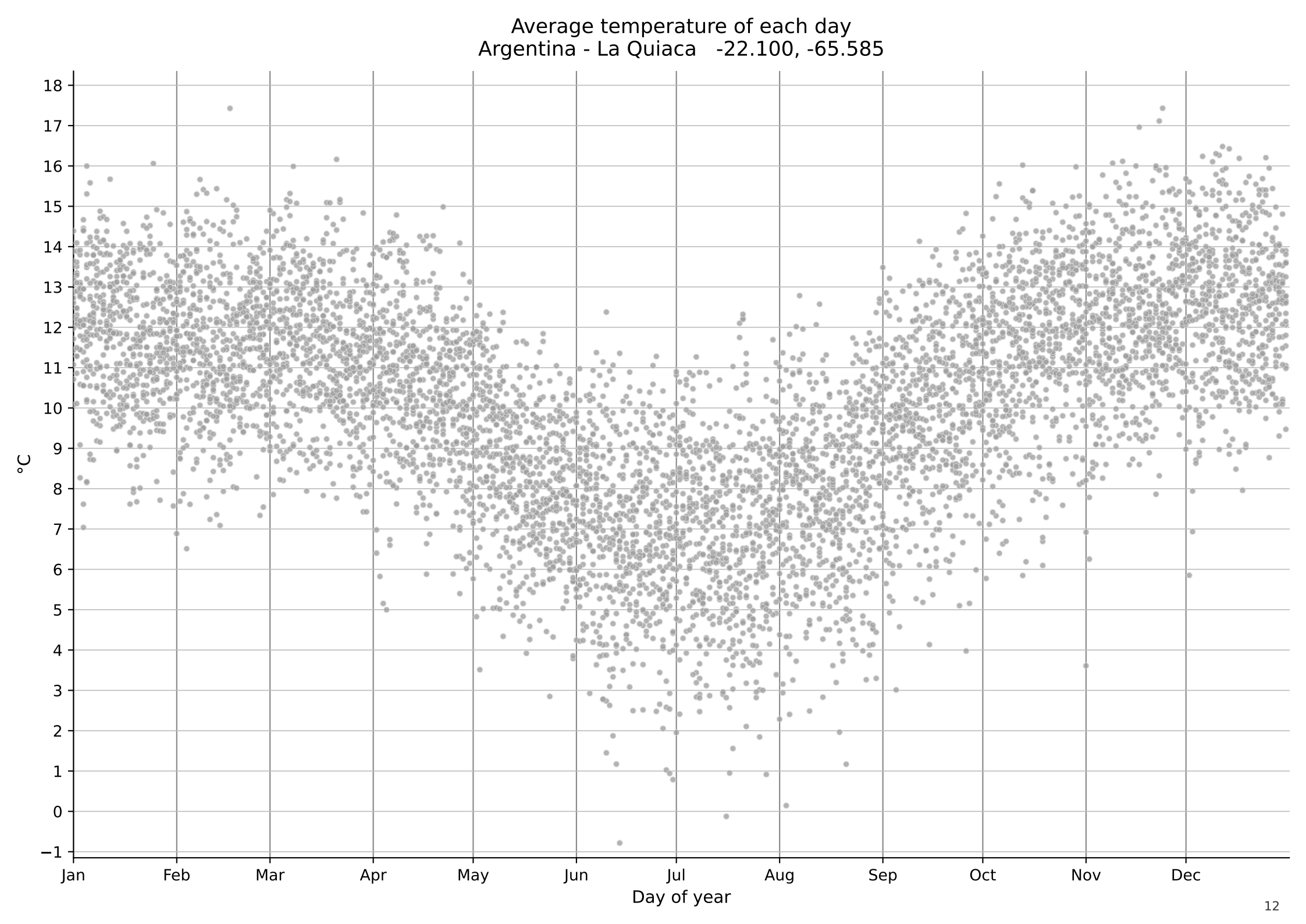

Yield distribution for each day — Wh / Wp of all PV together — 00:00–09:00
Argentina - La Quiaca -22.100, -65.585
Wh / Wp
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

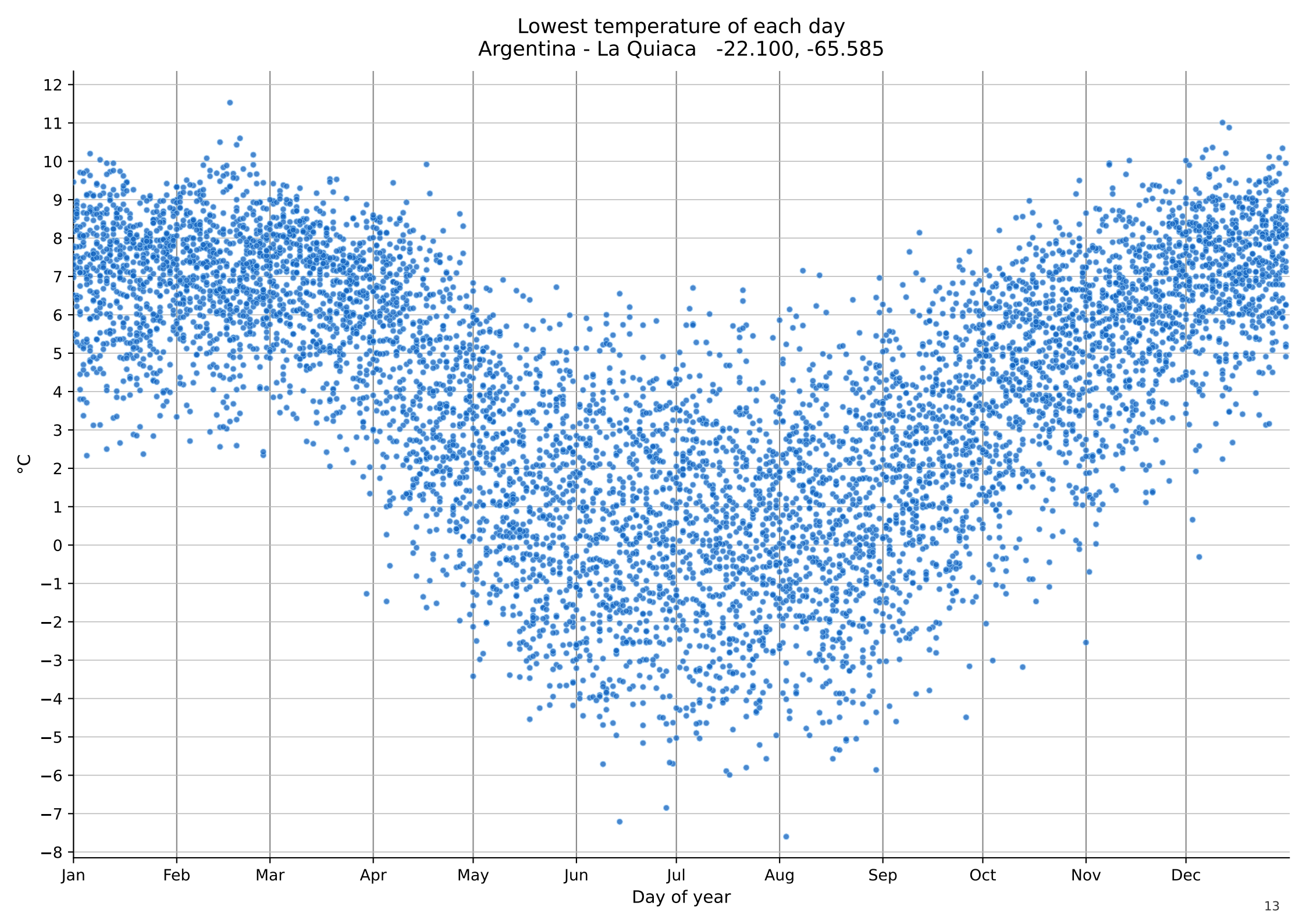

Yield distribution for each day — Wh / Wp of all PV together — 15:00–23:59
Argentina - La Quiaca -22.100, -65.585
Wh / Wp
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

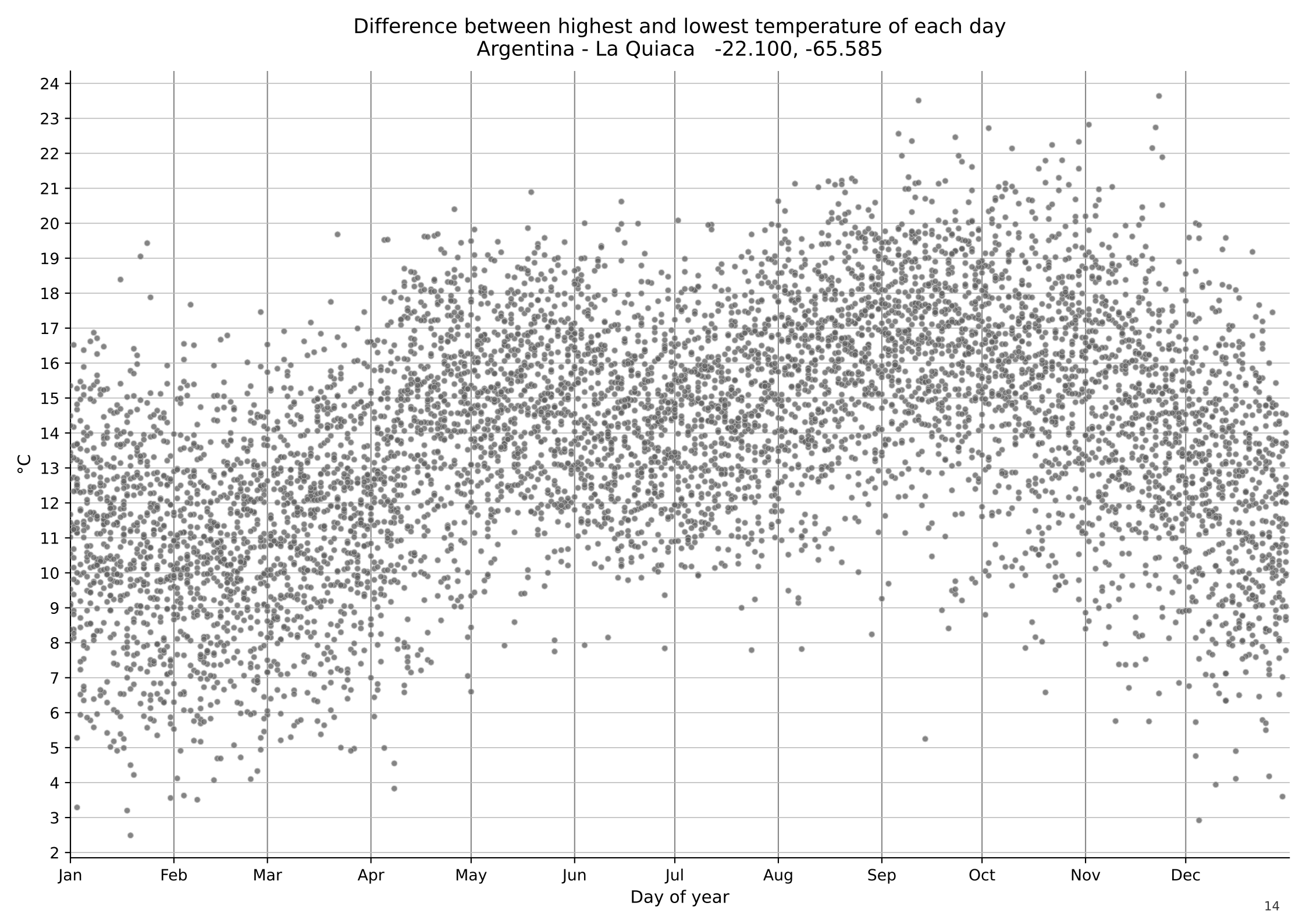

Share of the day’s yield in 09:00–15:00 winter time
Argentina - La Quiaca -22.100, -65.585
%
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Share of the day’s yield outside 09:00–15:00 winter time
Argentina - La Quiaca -22.100, -65.585
%
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
Argentina - La Quiaca -22.100, -65.585
°C
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Average temperature of each day
Argentina - La Quiaca -22.100, -65.585
°C
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
−1
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Lowest temperature of each day
Argentina - La Quiaca -22.100, -65.585
°C
12
11
10
9
8
7
6
5
4
3
2
1
0
−1
−2
−3
−4
−5
−6
−7
−8
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Difference between highest and lowest temperature of each day
Argentina - La Quiaca -22.100, -65.585
°C
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

Monthly and yearly specific yield (kWh/kWp = Wh/Wp)
Argentina - La Quiaca -22.100, -65.585

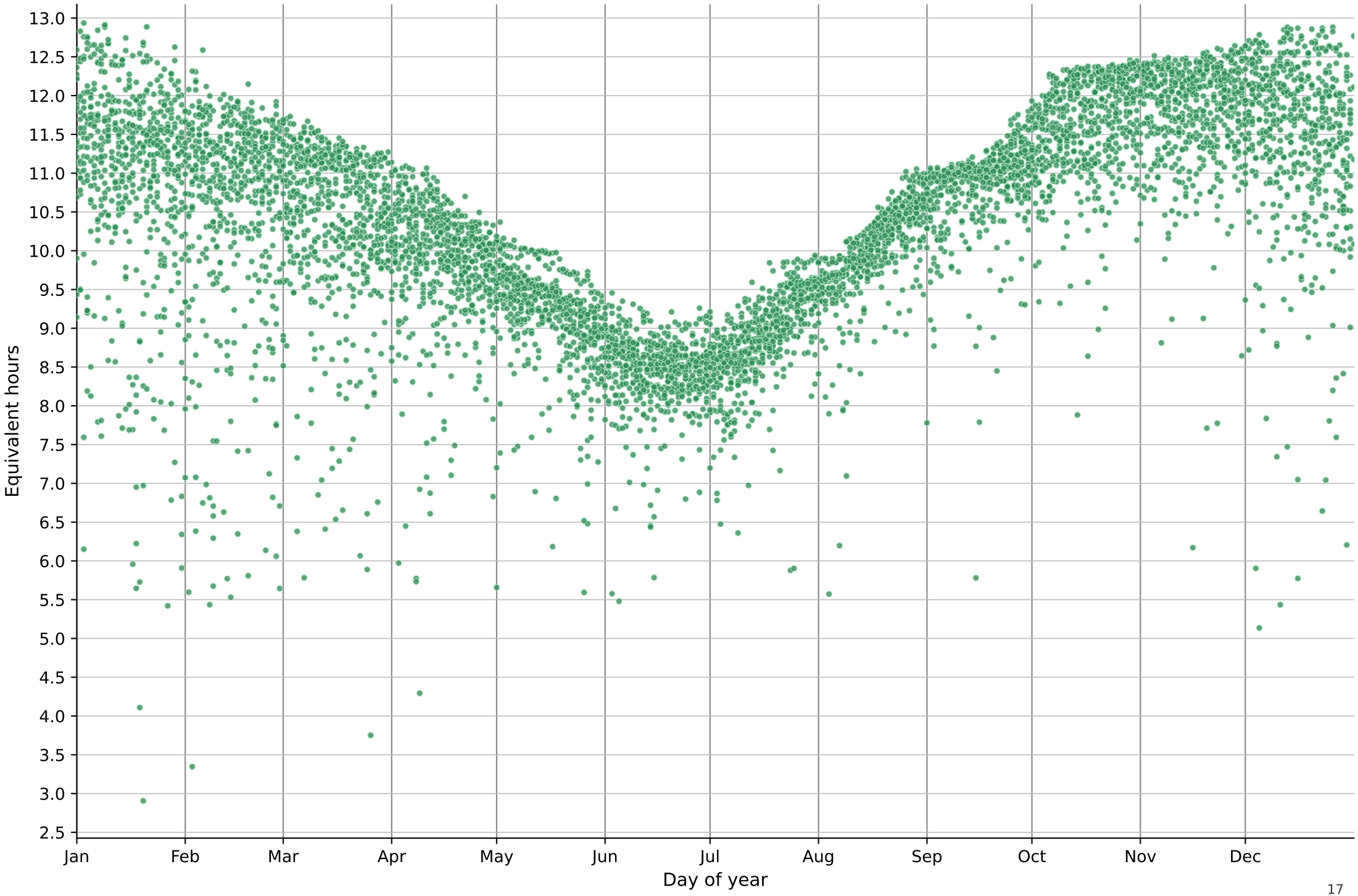
Month / year		Roof East 22°/-90° 19,800 Wp	Roof West 22°/90° 19,800 Wp	Terrace railing south 90°/0° 4,620 Wp	Terrace railing north 90°/180° 4,620 Wp	share central structure east p 8°/-90° 20,460 Wp	share central strucure west p 8°/90° 20,460 Wp	All together
January	Maximum	189.81	183.44	158.58	28.37	195.13	192.62	180.09
	average	176.20	170.23	146.19	25.22	181.05	178.76	167.26
	minimum	159.98	156.75	132.29	23.20	165.12	163.81	153.06
February	Maximum	163.82	163.78	126.40	42.50	168.90	169.54	157.44
	average	149.71	148.94	114.89	39.32	155.39	154.97	144.56
	minimum	127.06	128.09	95.57	36.30	132.13	132.41	123.53
March	Maximum	171.12	167.21	95.59	80.10	177.18	175.57	164.08
	average	157.62	157.05	89.48	76.14	164.02	163.68	152.63
	minimum	144.80	148.89	84.61	72.21	152.98	154.82	144.00
April	Maximum	150.48	152.61	42.61	83.80	156.00	156.27	144.27
	average	141.18	143.06	42.01	80.78	146.73	147.34	136.05
	minimum	130.19	132.83	40.84	76.85	136.17	137.17	126.79
May	Maximum	135.18	139.02	15.74	88.00	139.98	141.51	129.76
	average	131.19	134.79	14.43	86.06	136.19	137.45	126.22
	minimum	127.06	130.39	13.53	83.77	132.10	133.29	122.45
June	Maximum	116.02	123.02	6.57	65.89	121.61	124.12	112.29
	average	114.52	121.02	5.27	65.05	120.05	122.37	110.84
	minimum	112.87	118.36	4.52	63.72	118.02	120.01	108.91
July	Maximum	128.19	135.54	11.17	77.38	134.66	137.39	124.61
	average	125.02	130.54	9.30	75.69	130.88	132.89	120.87
	minimum	120.75	125.24	8.48	73.93	126.25	127.86	116.62
August	Maximum	152.14	154.25	31.01	94.29	157.90	158.65	146.13
	average	149.46	151.02	29.93	92.60	154.90	155.46	143.33
	minimum	144.36	146.48	29.17	90.11	149.93	150.72	138.89
September	Maximum	172.94	177.85	77.23	90.91	181.26	183.28	169.13
	average	166.00	166.75	74.61	87.74	172.86	173.12	160.62
	minimum	159.34	159.01	72.64	84.95	165.47	165.33	153.75
October	Maximum	203.44	200.08	143.36	57.34	210.27	209.12	194.84
	average	190.53	187.12	134.08	55.73	196.92	195.73	182.58
	minimum	179.85	171.98	125.62	54.22	184.72	181.62	170.42
November	Maximum	202.98	194.60	168.08	28.38	207.14	204.43	190.75
	average	190.70	182.18	158.16	26.69	195.98	192.51	180.32
	minimum	183.62	173.84	151.80	25.01	188.44	184.45	173.13
December	Maximum	204.29	189.86	170.34	22.19	208.07	202.14	190.01
	average	187.69	179.58	156.85	18.52	192.43	189.04	176.99
	minimum	159.94	163.44	135.52	15.80	167.13	168.38	155.89
All years	Maximum	1,926.8	1,933.4	1,005.2	740.4	1,999.8	2,001.5	1,852.9
	average	1,879.8	1,872.3	975.2	729.5	1,947.4	1,943.3	1,802.3
	minimum	1,841.4	1,847.4	950.1	721.3	1,912.9	1,916.7	1,774.7

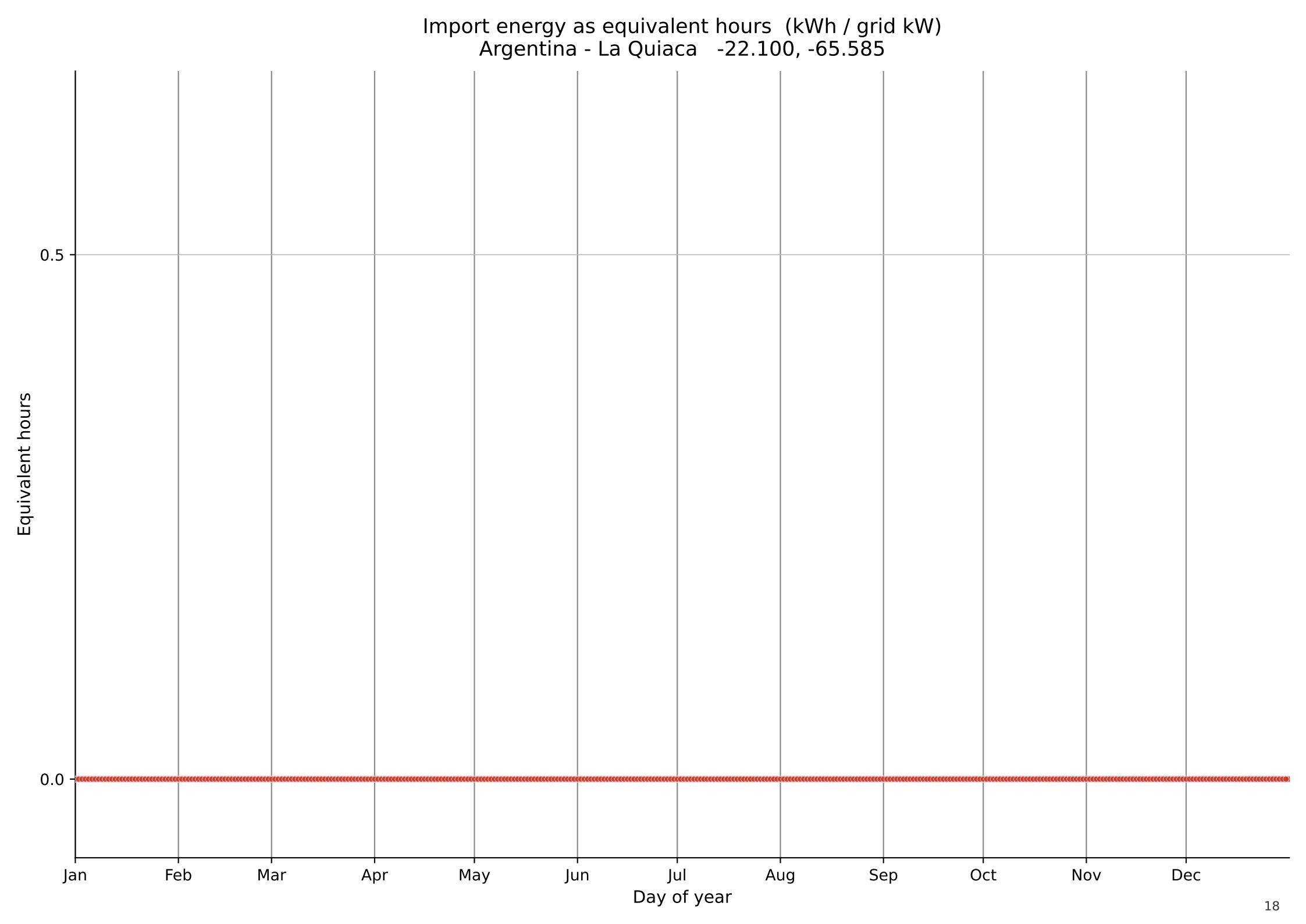
Highest combined yield hour: 2022-11-13 16:30 UTC 79,636.6 W (0.887 W/Wp) of 89,760 Wp installed. Use this hour to size battery charge power.

Monthly and yearly total yield (kWh)
Argentina - La Quiaca -22.100, -65.585

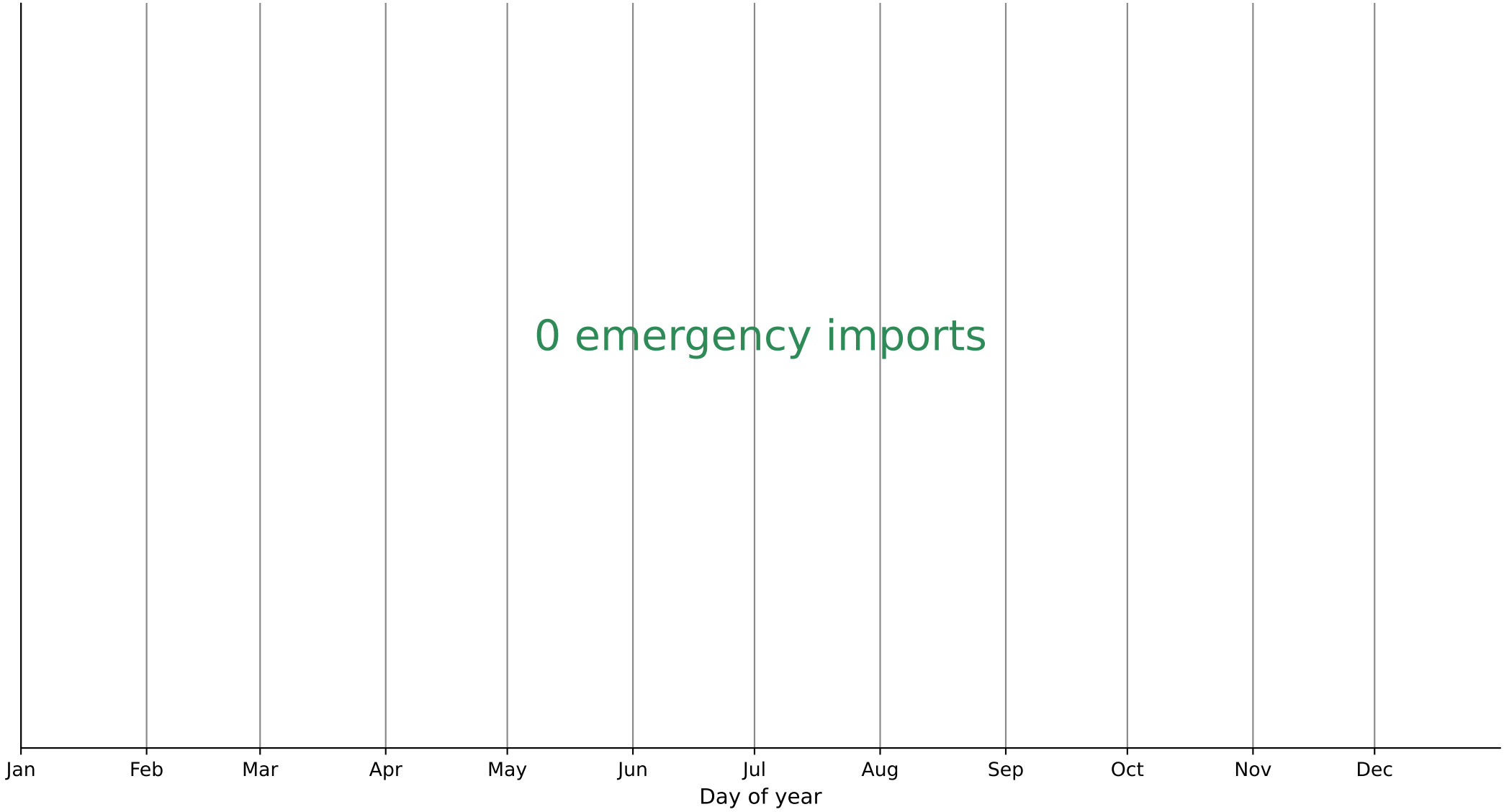
Month / year		Roof East 22°/-90° 19,800 Wp	Roof West 22°/90° 19,800 Wp	Terrace railing south 90°/0° 4,620 Wp	Terrace railing north 90°/180° 4,620 Wp	share central structure east p 8°/-90° 20,460 Wp	share central strucure west p 8°/90° 20,460 Wp	All together
January	Maximum	3,758.18	3,632.02	732.62	131.07	3,992.42	3,941.05	16,165.10
	average	3,488.70	3,370.64	675.39	116.53	3,704.20	3,657.42	15,012.88
	minimum	3,167.52	3,103.63	611.16	107.16	3,378.36	3,351.54	13,738.58
February	Maximum	3,243.71	3,242.87	583.98	196.34	3,455.66	3,468.79	14,132.19
	average	2,964.35	2,949.01	530.80	181.65	3,179.29	3,170.63	12,975.73
	minimum	2,515.87	2,536.22	441.55	167.71	2,703.47	2,709.10	11,088.14
March	Maximum	3,388.21	3,310.75	441.62	370.08	3,625.04	3,592.19	14,727.88
	average	3,120.80	3,109.52	413.38	351.76	3,355.91	3,348.95	13,700.32
	minimum	2,867.01	2,948.07	390.90	333.61	3,129.89	3,167.53	12,925.65
April	Maximum	2,979.46	3,021.60	196.87	387.15	3,191.80	3,197.26	12,949.46
	average	2,795.28	2,832.50	194.09	373.21	3,002.10	3,014.66	12,211.84
	minimum	2,577.71	2,630.06	188.67	355.03	2,786.02	2,806.52	11,380.51
May	Maximum	2,676.58	2,752.59	72.73	406.57	2,863.92	2,895.37	11,647.57
	average	2,597.66	2,668.80	66.65	397.60	2,786.36	2,812.15	11,329.21
	minimum	2,515.85	2,581.72	62.52	387.02	2,702.76	2,727.09	10,990.93
June	Maximum	2,297.25	2,435.77	30.36	304.39	2,488.10	2,539.57	10,078.74
	average	2,267.59	2,396.28	24.33	300.51	2,456.15	2,503.75	9,948.60
	minimum	2,234.73	2,343.57	20.89	294.41	2,414.71	2,455.38	9,775.39
July	Maximum	2,538.23	2,683.68	51.58	357.51	2,755.22	2,811.03	11,184.85
	average	2,475.33	2,584.74	42.98	349.68	2,677.86	2,718.92	10,849.50
	minimum	2,390.89	2,479.73	39.19	341.56	2,583.06	2,616.04	10,467.68
August	Maximum	3,012.30	3,054.11	143.25	435.61	3,230.65	3,246.03	13,116.89
	average	2,959.33	2,990.23	138.26	427.80	3,169.33	3,180.62	12,865.58
	minimum	2,858.41	2,900.37	134.78	416.30	3,067.49	3,083.65	12,466.67
September	Maximum	3,424.18	3,521.42	356.82	420.02	3,708.65	3,749.86	15,180.96
	average	3,286.75	3,301.75	344.71	405.38	3,536.69	3,541.95	14,417.23
	minimum	3,155.02	3,148.49	335.59	392.46	3,385.50	3,382.63	13,800.91
October	Maximum	4,028.08	3,961.65	662.30	264.92	4,302.22	4,278.60	17,489.16
	average	3,772.52	3,704.93	619.47	257.46	4,028.92	4,004.70	16,388.00
	minimum	3,560.98	3,405.27	580.34	250.50	3,779.47	3,715.93	15,297.21
November	Maximum	4,019.00	3,853.01	776.51	131.10	4,238.15	4,182.68	17,121.84
	average	3,775.89	3,607.13	730.71	123.32	4,009.69	3,938.76	16,185.49
	minimum	3,635.76	3,442.12	701.30	115.53	3,855.52	3,773.83	15,539.99
December	Maximum	4,044.98	3,759.30	786.97	102.53	4,257.20	4,135.77	17,055.01
	average	3,716.20	3,555.62	724.63	85.55	3,937.16	3,867.74	15,886.91
	minimum	3,166.89	3,236.07	626.08	72.97	3,419.58	3,445.05	13,992.79
All years	Maximum	38,151.3	38,281.2	4,644.2	3,420.9	40,915.3	40,950.3	166,319.3
	average	37,220.4	37,071.2	4,505.4	3,370.4	39,843.7	39,760.2	161,771.3
	minimum	36,459.0	36,578.0	4,389.6	3,332.4	39,138.0	39,215.4	159,296.1

Highest combined yield hour: 2022-11-13 16:30 UTC 79,636.6 W (0.887 W/Wp) of 89,760 Wp installed. Use this hour to size battery charge power.


Export energy as equivalent hours (kWh / grid kW)
Argentina - La Quiaca -22.100, -65.585
Equivalent hours
13.0
12.5
12.0
11.5
11.0
10.5
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
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Import energy as equivalent hours (kWh / grid kW)
Argentina - La Quiaca -22.100, -65.585
0.5
0.0
Equivalent hours
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

Emergency import hours: 0 days with an emergency: 0
Argentina - La Quiaca -22.100, -65.585



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
Argentina - La Quiaca -22.100, -65.585

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Export to grid													
month Maximum	12,132	10,905	11,492	10,506	9,911	8,747	9,631	10,678	11,356	12,647	12,440	12,587	130,464
month average	11,575	10,179	10,951	10,065	9,688	8,628	9,359	10,525	11,074	12,243	12,049	12,086	128,421
month minimum	10,941	9,113	10,477	9,528	9,417	8,449	9,027	10,243	10,758	11,723	11,765	11,003	127,326
day Maximum	439.8	428.0	398.9	378.7	352.6	321.5	338.0	375.8	401.1	423.6	429.8	438.0	439.8
day average	373.4	360.8	353.3	335.5	312.5	287.6	301.9	339.5	369.1	394.9	401.6	389.9	351.6
day minimum	98.8	113.8	127.6	146.0	190.2	186.3	199.9	189.4	196.6	268.0	209.8	174.6	98.8
Import from grid													
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
Total energy used for house													
month Maximum	578	542	587	583	617	612	635	624	592	587	562	583	7,008
month average	565	517	569	565	605	599	623	613	573	568	544	560	6,900
month minimum	550	495	555	548	594	584	604	600	556	550	524	542	6,803
day Maximum	19.8	20.0	19.7	20.6	21.2	22.3	22.2	22.2	21.2	20.1	20.8	20.2	22.3
day average	18.2	18.3	18.3	18.8	19.5	20.0	20.1	19.8	19.1	18.3	18.1	18.1	18.9
day minimum	15.4	16.5	16.9	17.4	18.2	18.3	18.4	18.2	17.6	16.8	16.5	16.8	15.4

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
Argentina - La Quiaca -22.100, -65.585

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Export													
month Maximum	1,374	1,300	1,399	1,195	1,238	1,198	1,250	1,239	1,159	1,351	1,315	1,372	15,099
month average	1,342	1,232	1,359	1,173	1,216	1,184	1,227	1,221	1,137	1,330	1,283	1,330	15,034
month minimum	1,303	1,174	1,332	1,142	1,186	1,152	1,203	1,193	1,113	1,311	1,253	1,284	14,956
day Maximum	54.3	54.3	53.8	47.4	46.7	46.4	46.5	47.0	47.2	51.9	52.1	53.8	54.3
day average	43.3	43.7	43.8	39.1	39.2	39.5	39.6	39.4	37.9	42.9	42.8	42.9	41.2
day minimum	15.3	16.1	18.7	13.4	20.6	23.4	24.0	22.7	22.1	26.2	26.2	23.2	13.4
Import													
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
Peak grid fee													
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
Import incl. peak fee													
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
Balance													
month Maximum	1,374	1,300	1,399	1,195	1,238	1,198	1,250	1,239	1,159	1,351	1,315	1,372	15,099
month average	1,342	1,232	1,359	1,173	1,216	1,184	1,227	1,221	1,137	1,330	1,283	1,330	15,034
month minimum	1,303	1,174	1,332	1,142	1,186	1,152	1,203	1,193	1,113	1,311	1,253	1,284	14,956
day Maximum	54.3	54.3	53.8	47.4	46.7	46.4	46.5	47.0	47.2	51.9	52.1	53.8	54.3
day average	43.3	43.7	43.8	39.1	39.2	39.5	39.6	39.4	37.9	42.9	42.8	42.9	41.2
day minimum	15.3	16.1	18.7	13.4	20.6	23.4	24.0	22.7	22.1	26.2	26.2	23.2	13.4

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
Argentina - La Quiaca -22.100, -65.585

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Export total													
month Maximum	12,132	10,905	11,492	10,506	9,911	8,747	9,631	10,678	11,356	12,647	12,440	12,587	130,464
month average	11,575	10,179	10,951	10,065	9,688	8,628	9,359	10,525	11,074	12,243	12,049	12,086	128,421
month minimum	10,941	9,113	10,477	9,528	9,417	8,449	9,027	10,243	10,758	11,723	11,765	11,003	127,326
day Maximum	439.8	428.0	398.9	378.7	352.6	321.5	338.0	375.8	401.1	423.6	429.8	438.0	439.8
day average	373.4	360.8	353.3	335.5	312.5	287.6	301.9	339.5	369.1	394.9	401.6	389.9	351.6
day minimum	98.8	113.8	127.6	146.0	190.2	186.3	199.9	189.4	196.6	268.0	209.8	174.6	98.8
Export during high price hours													
month Maximum	4,565	4,572	5,114	5,072	5,375	5,402	5,537	5,149	4,503	4,224	3,888	4,475	56,784
month average	4,419	4,301	4,919	4,913	5,307	5,372	5,476	5,071	4,391	4,089	3,777	4,108	56,145
month minimum	4,307	4,093	4,710	4,787	5,245	5,352	5,428	5,026	4,294	3,945	3,574	3,907	55,529
day Maximum	186.8	195.5	194.0	190.8	192.2	196.2	191.1	196.0	189.0	169.9	187.1	186.7	196.2
day average	142.5	152.4	158.7	163.8	171.2	179.1	176.7	163.6	146.4	131.9	125.9	132.5	153.7
day minimum	94.7	97.0	126.4	94.5	147.8	165.3	161.9	144.5	118.4	113.7	105.7	99.2	94.5
Export during medium price hours													
month Maximum	4,576	3,949	3,863	3,273	2,622	2,094	2,480	3,230	3,886	4,668	4,785	4,751	42,795
month average	4,290	3,559	3,521	2,979	2,490	2,017	2,350	3,135	3,670	4,392	4,493	4,528	41,425
month minimum	3,940	2,978	3,210	2,607	2,316	1,917	2,188	2,939	3,450	4,066	4,240	3,904	40,656
day Maximum	178.5	167.5	151.2	130.9	118.0	97.6	105.0	129.4	146.6	170.1	175.4	185.3	185.3
day average	138.4	126.2	113.6	99.3	80.3	67.2	75.8	101.1	122.3	141.7	149.8	146.1	113.4
day minimum	0.0	0.0	0.0	7.2	0.0	0.5	9.6	0.0	19.6	75.9	39.1	0.0	0.0
Export during low price hours													
month Maximum	3,235	2,719	2,954	2,446	2,061	1,318	1,723	2,415	3,176	4,035	4,025	3,930	32,140
month average	2,866	2,319	2,511	2,173	1,890	1,239	1,533	2,319	3,013	3,761	3,779	3,450	30,852
month minimum	2,457	1,734	2,166	1,819	1,719	1,137	1,303	2,155	2,841	3,433	3,603	2,625	29,816
day Maximum	158.4	128.0	102.6	102.0	86.2	61.7	68.0	102.0	126.5	136.0	136.0	136.0	158.4
day average	92.4	82.2	81.0	72.4	61.0	41.3	49.4	74.8	100.4	121.3	126.0	111.3	84.5
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

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
Argentina - La Quiaca -22.100, -65.585

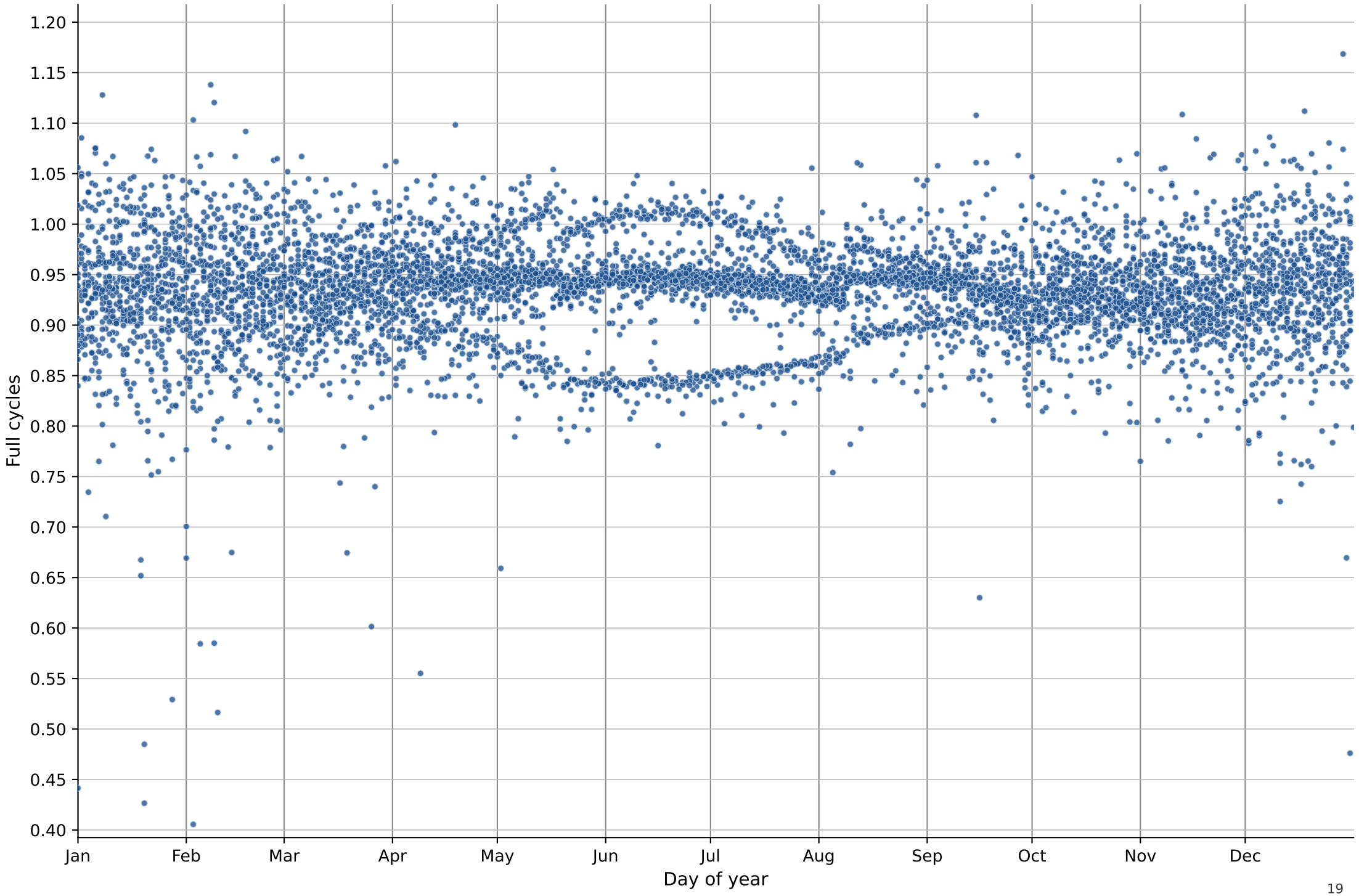
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Heating													
month Maximum	99	93	107	112	129	139	143	133	118	107	98	101	1,299
month average	87	81	90	95	118	127	131	123	101	90	81	81	1,204
month minimum	72	64	78	80	108	113	114	111	85	73	62	65	1,119
day Maximum	4.2	4.4	4.1	4.8	5.4	6.5	6.2	6.2	5.3	4.5	5.2	4.6	6.5
day average	2.8	2.9	2.9	3.2	3.8	4.2	4.2	4.0	3.4	2.9	2.7	2.6	3.3
day minimum	0.0	1.3	1.6	1.9	2.6	2.6	2.7	2.5	2.0	1.5	1.2	1.4	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	46	43	46	51	54	53	58	57	54	46	44	48	593
month average	44	41	45	50	53	52	57	56	52	45	43	45	583
month minimum	43	39	43	48	52	51	56	55	51	43	41	43	574
day Maximum	1.6	1.6	1.6	1.8	1.8	1.8	1.9	1.9	1.9	1.6	1.6	1.7	1.9
day average	1.4	1.4	1.4	1.7	1.7	1.7	1.9	1.8	1.7	1.4	1.4	1.4	1.6
day minimum	1.3	1.3	1.3	1.5	1.6	1.6	1.7	1.7	1.6	1.3	1.3	1.3	1.3
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

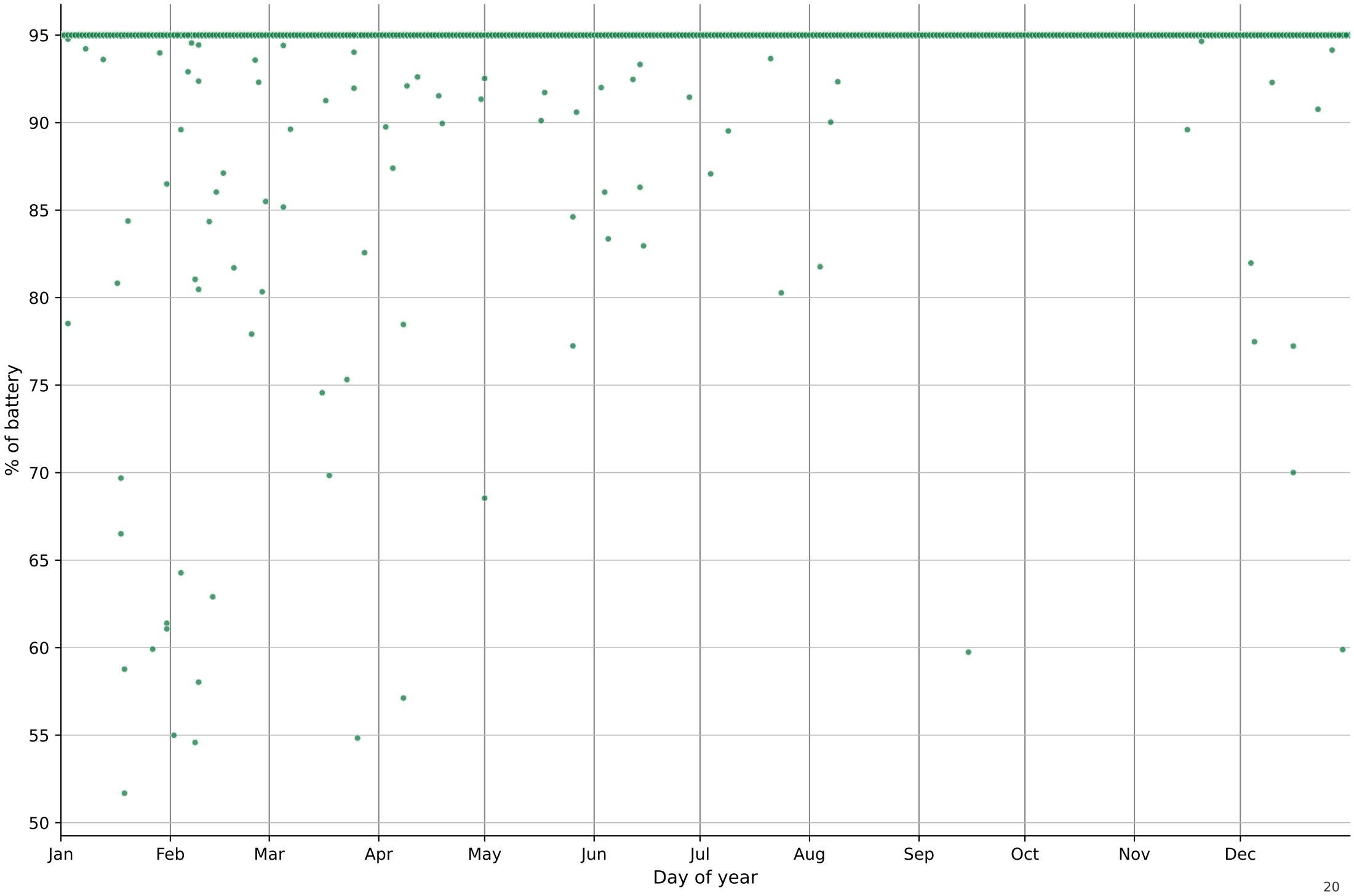
Heating, cooling and DHW are electricity. Direct electric is the part the heat pump could not cover.

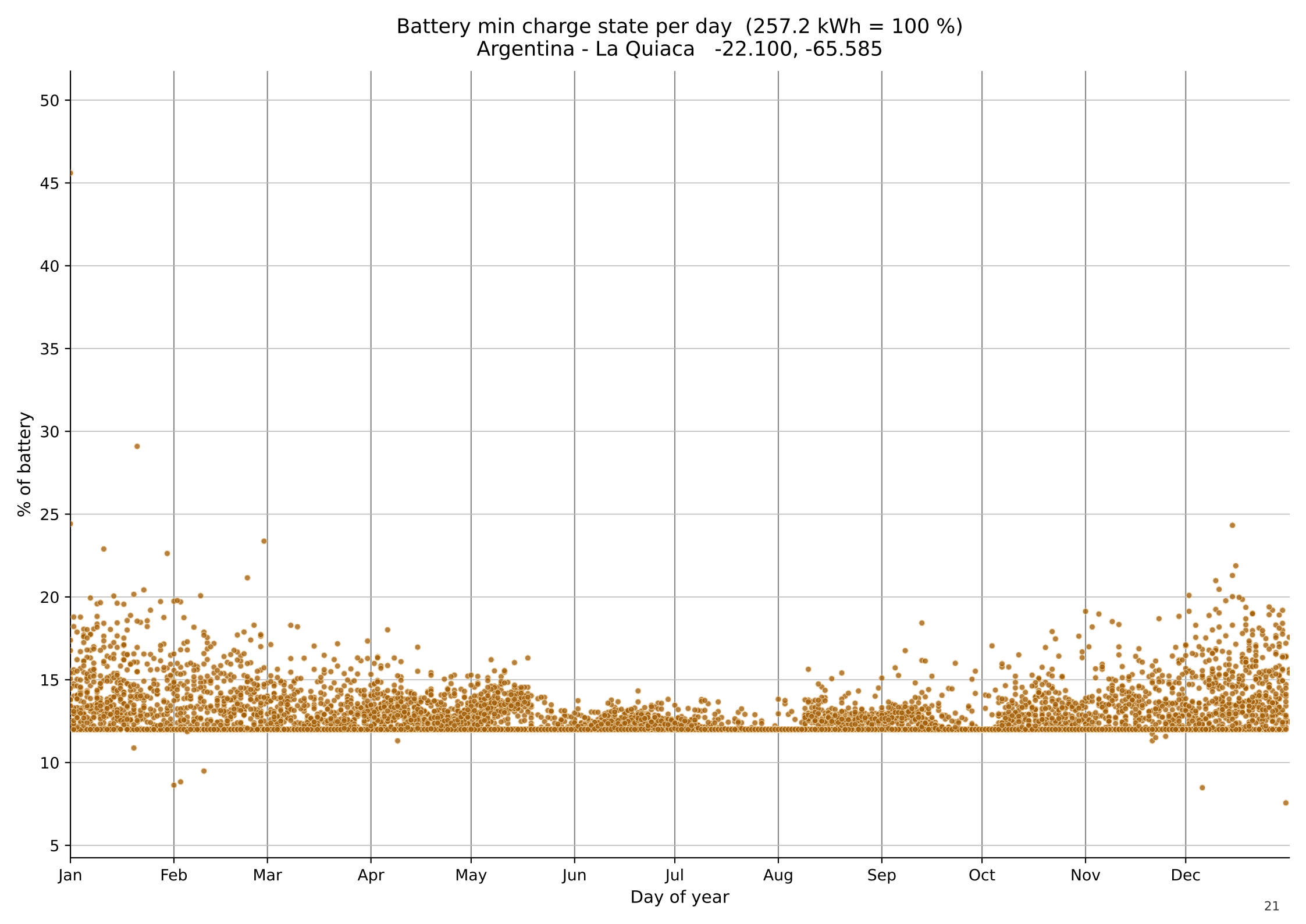
Battery
Argentina - La Quiaca -22.100, -65.585

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Wasted													
month Maximum	2,846	2,253	2,073	1,306	566	147	312	1,223	2,647	3,655	3,533	3,336	21,730
month average	2,276	1,728	1,589	1,002	433	132	255	1,115	2,180	2,970	3,008	2,624	19,313
month minimum	1,619	922	1,181	703	363	105	212	990	1,827	2,399	2,670	1,705	17,888
day Maximum	146.5	137.8	111.6	74.7	41.1	7.5	30.1	75.2	116.9	153.8	172.4	176.3	176.3
day average	73.4	61.3	51.3	33.4	14.0	4.4	8.2	36.0	72.7	95.8	100.3	84.6	52.9
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
Full cycles													
month Maximum	29	27	29	28	29	28	29	29	28	29	28	29	343
month average	29	26	29	28	29	28	29	29	28	29	28	29	341
month minimum	28	26	28	28	29	28	29	29	28	29	28	29	340
day Maximum	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.2
day average	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 minimum	0.4	0.4	0.6	0.6	0.7	0.8	0.8	0.8	0.6	0.8	0.8	0.5	0.4
Charge 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	3
month minimum	0	0	0	0	0	0	0	0	0	0	0	0	3
day Maximum	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
day average	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2
day minimum	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1
Discharge 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	0.1	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 / 257.2 kWh. Battery export only into hours whose export price is above 0, highest price first. At 0 cent on


Battery cycles per day (discharge / 257.2 kWh)
Argentina - La Quiaca -22.100, -65.585
Full cycles
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
Jan
Feb
Mar
Apr
May
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Sep
Oct
Nov
Dec
Day of year


Battery max charge state per day (257.2 kWh = 100 %)
Argentina - La Quiaca -22.100, -65.585
% 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 (257.2 kWh = 100 %)
Argentina - La Quiaca -22.100, -65.585
% 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