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	19800	—	front	—	yes
Roof West	22	90	19800	—	front	—	yes
Terrace railing south	90	0	4620	5 / 4	front	—	yes
Terrace railing north	90	180	4620	5 / 4	front	—	yes
share central structure east part	8	-90	20460	—	front	—	yes
share central strucure west part	8	90	20460	—	front	—	yes
Total counted			89760				

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) 79637 W 0.887 W/Wp of 89760 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 winter time, battery export is only the kWh that would not fit in the next 72 h.

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=Argentina+-+La+Quiaca&simname=with+34+kW+grid&lat=-22.1&lon=-65.585&startyear=2005&endyear=2023&loss=14.0&raddatabase=auto&usehorizon=1&export0915=0&outdir=%2Fhome%2Ffounder%2Finternet%2Fgemini-

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 / 1600.0 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	200.0 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 5 6
	kW −10/0/10 @ 50 °C	3.5 4.5 5
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	17467	19064	18875	17223	18826	18807	18845	17146	17277	18793
Roof West	18713	17085	16894	18512	16867	16880	16851	18435	18407	16879
Terrace railing south	3420	3429	3483	3259	3197	3259	3486	2766	3465	3329
Terrace railing north	634	643	567	796	857	801	552	1402	564	706
share central structure east part	19467	20056	19837	19205	19814	19789	19804	19158	19200	19772
share central strucure west part	19936	19312	19094	19689	19078	19065	19056	19643	19624	19054
Watt at record	79637	79588	78751	78684	78639	78601	78595	78548	78538	78533
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 79637 W (88.7 % of 89760 Wp).

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

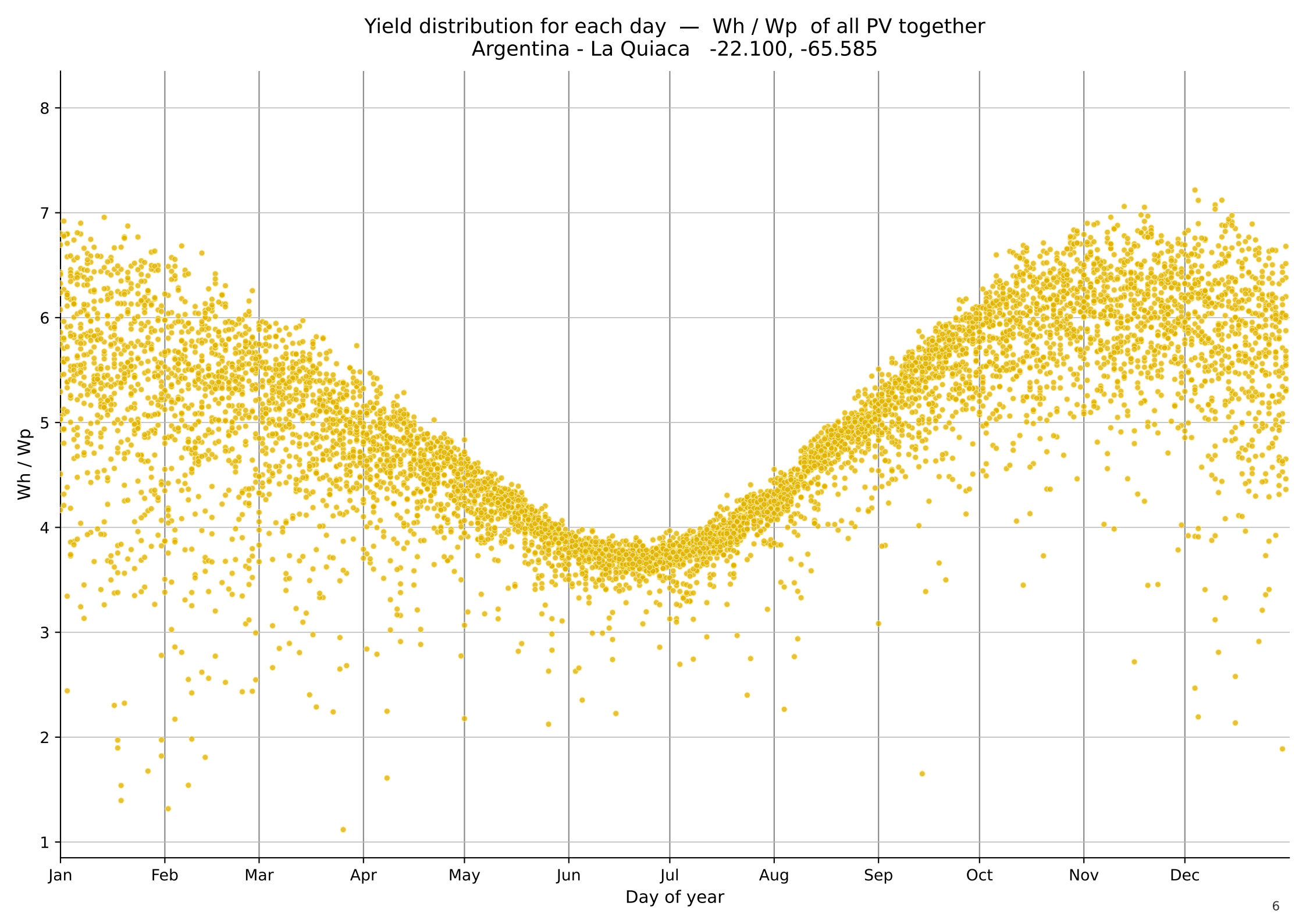
Of the record	Hours	Watts
98 %	16	78044 W
96 %	106	76451 W
94 %	358	74858 W
92 %	879	73266 W
90 %	1870	71673 W

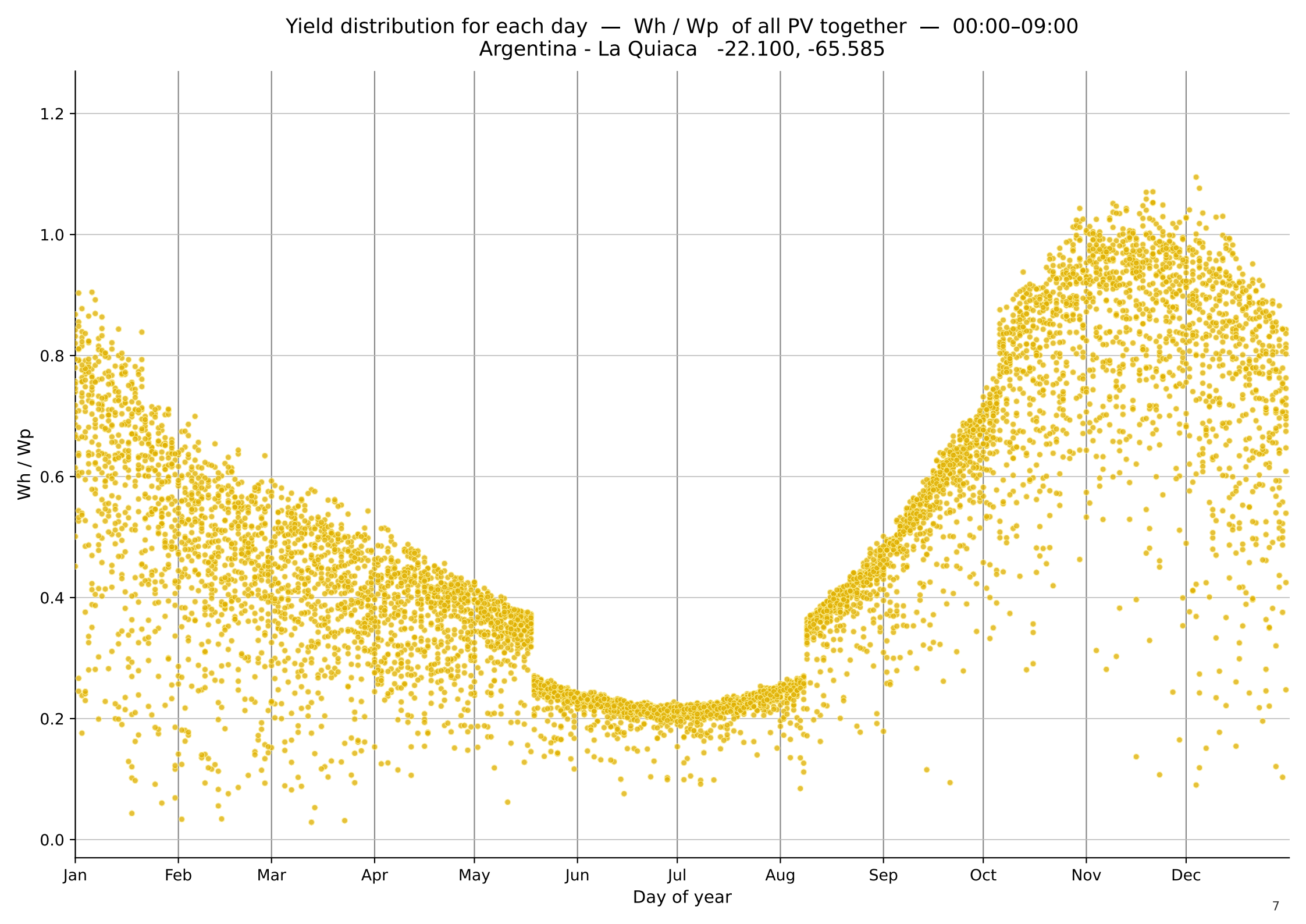
Record hour = 79637 W combined.

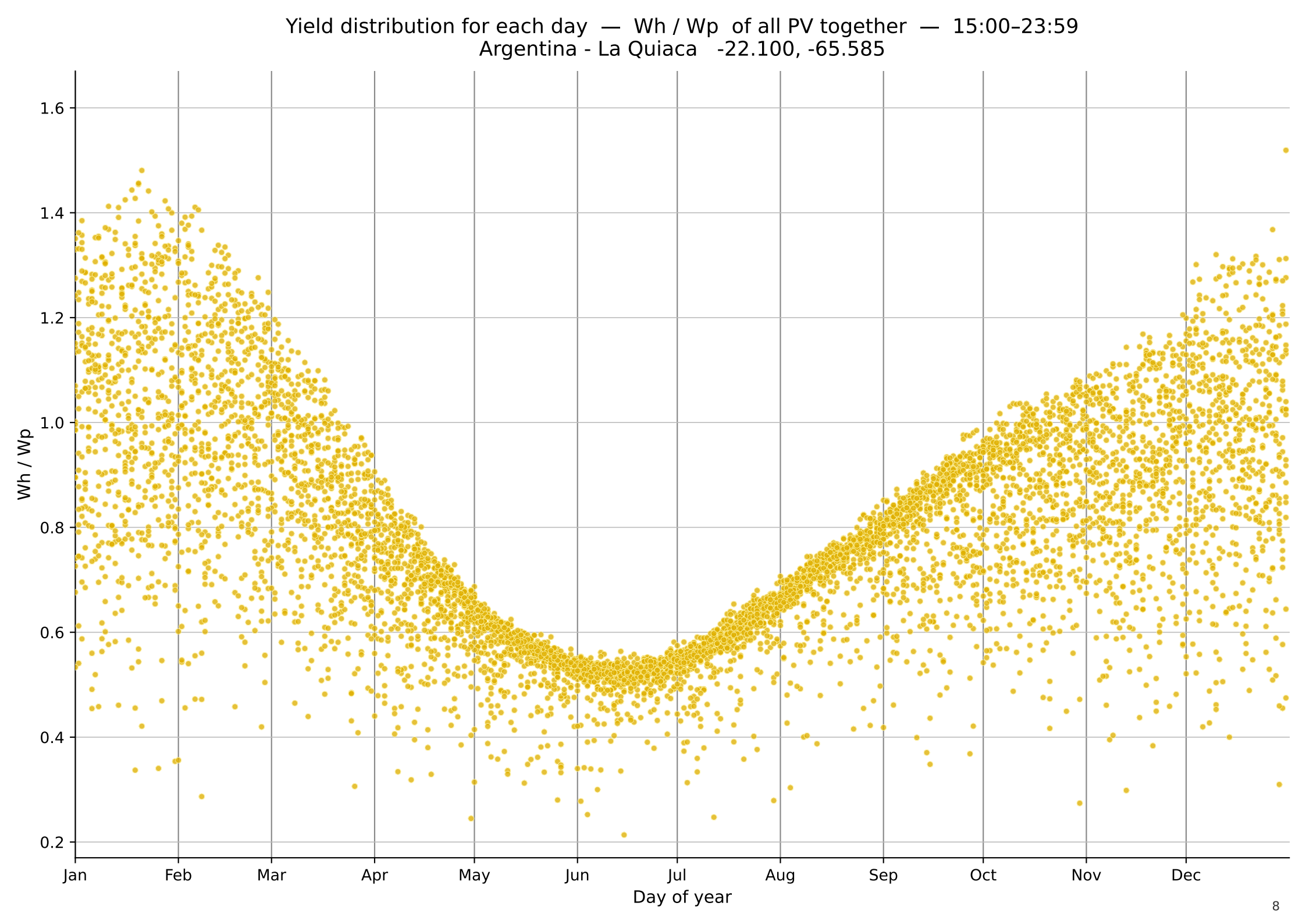
Records of each photovoltaic field
Argentina - La Quiaca -22.100, -65.585

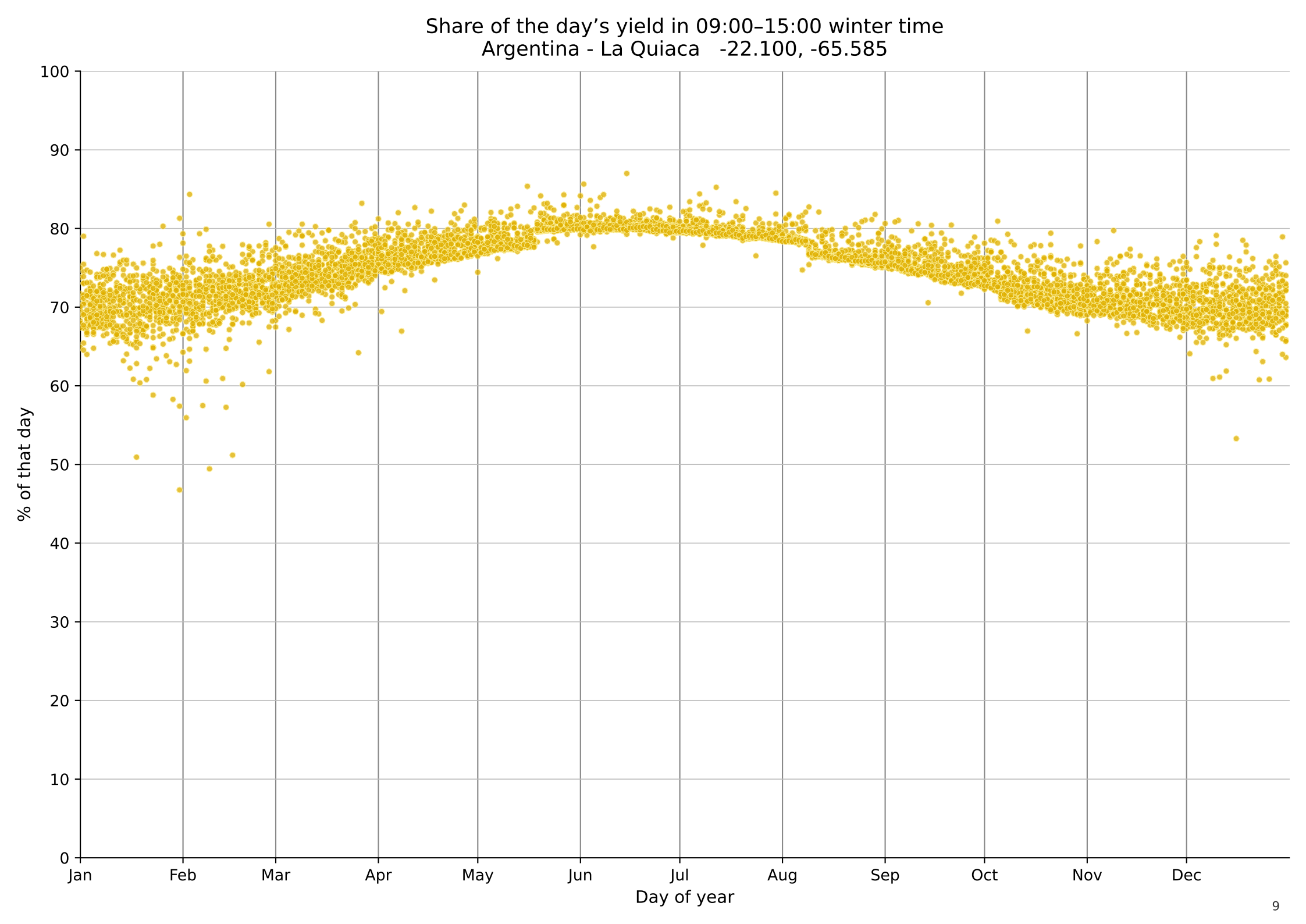
PV	Date	Watts	%	h ≥98%	h ≥96%	h ≥94%	h ≥92%	h ≥90%
Roof East	2022-11-13 14:30	19467	98.3	13	67	286	700	1508
Roof West	2022-11-13 17:30	19218	97.1	10	53	213	593	1275
Terrace railing south	2007-12-10 15:30	3652	79.0	15	64	198	533	1050
Terrace railing north	2010-07-18 16:30	3536	76.5	3	47	265	924	1954
share central structure east part	2022-11-13 15:30	20056	98.0	8	57	228	634	1421
share central strucure west part	2022-11-13 16:30	19936	97.4	7	56	221	615	1355

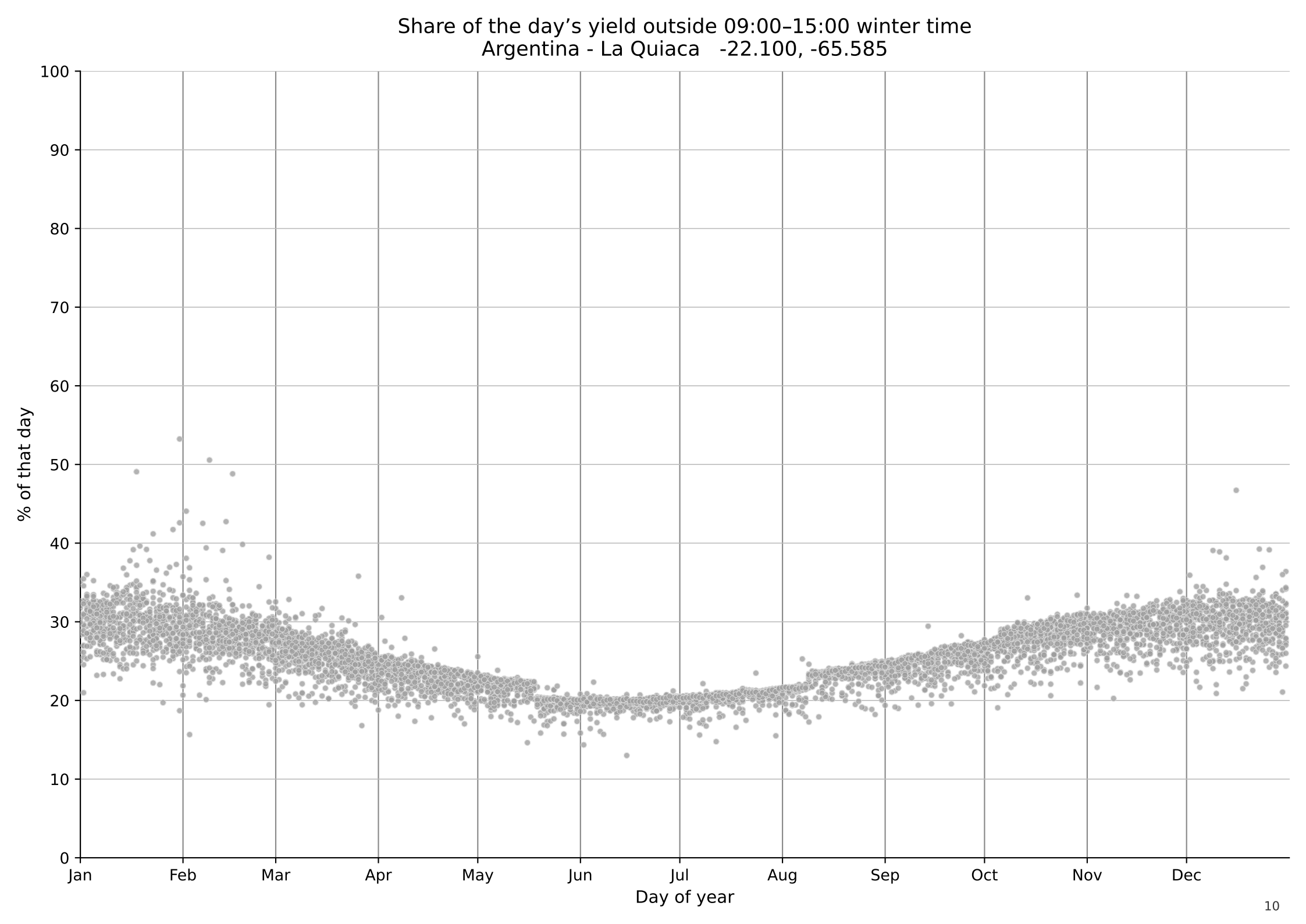
Watts is the highest hour of that field. % is of its own Wp. Hours are the count of hours at or above that share of its own record. Use this to size the MPPT or the inverter for that field.

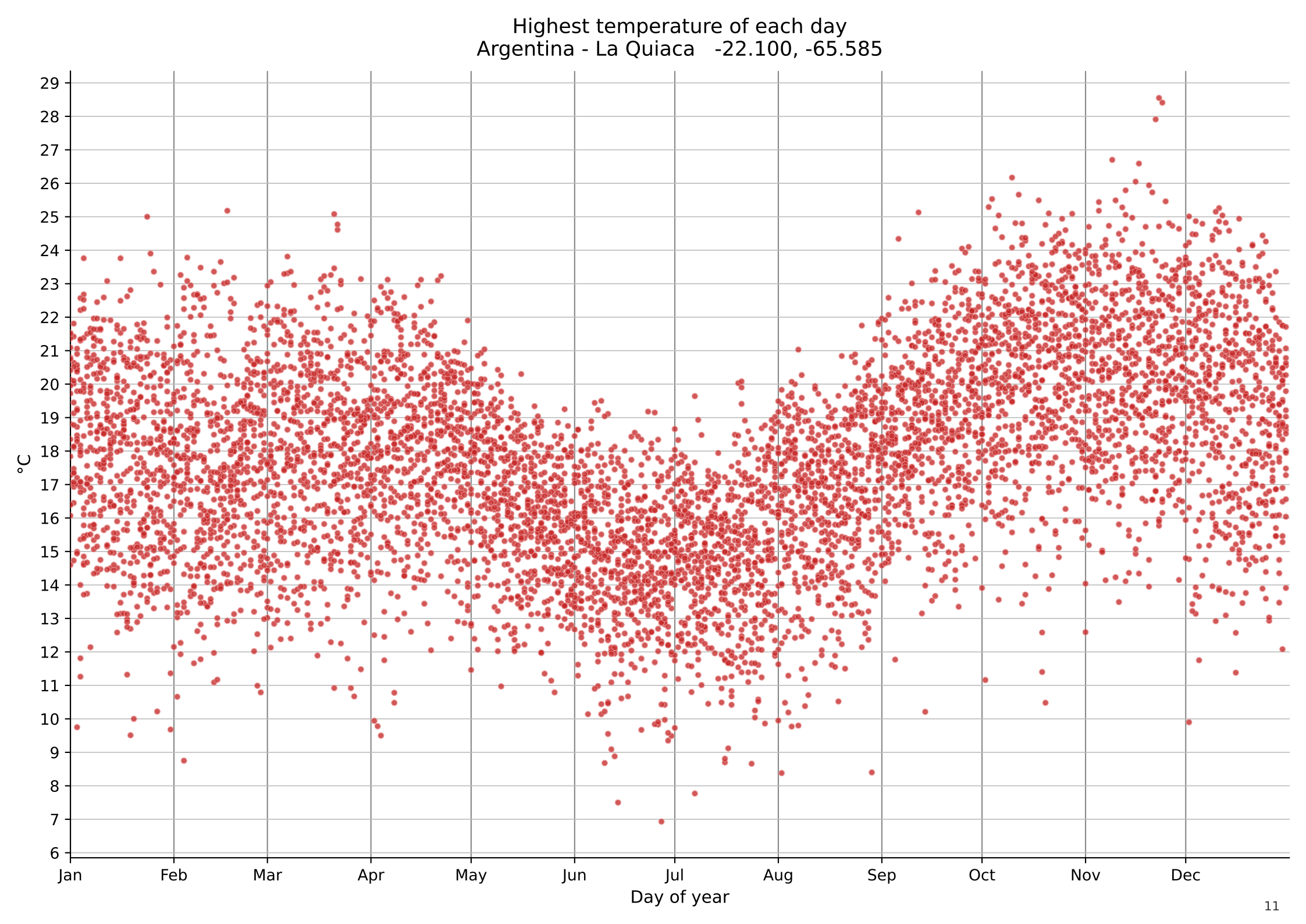

Yield distribution for each day — Wh / Wp of all PV together
Argentina - La Quiaca -22.100, -65.585
Wh / Wp
8
7
6
5
4
3
2
1
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

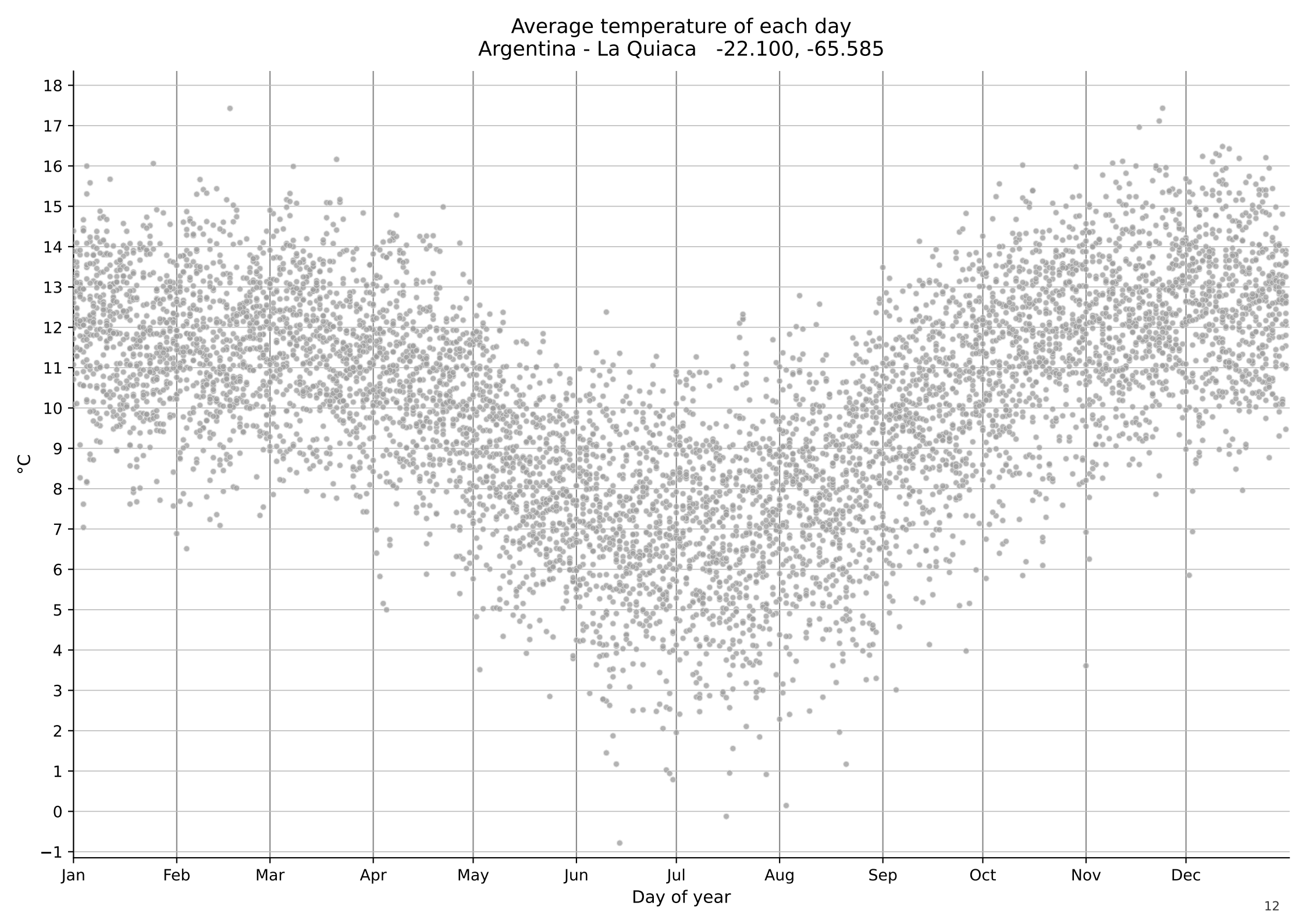

Yield distribution for each day — Wh / Wp of all PV together — 00:00–09:00
Argentina - La Quiaca -22.100, -65.585
Wh / Wp
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

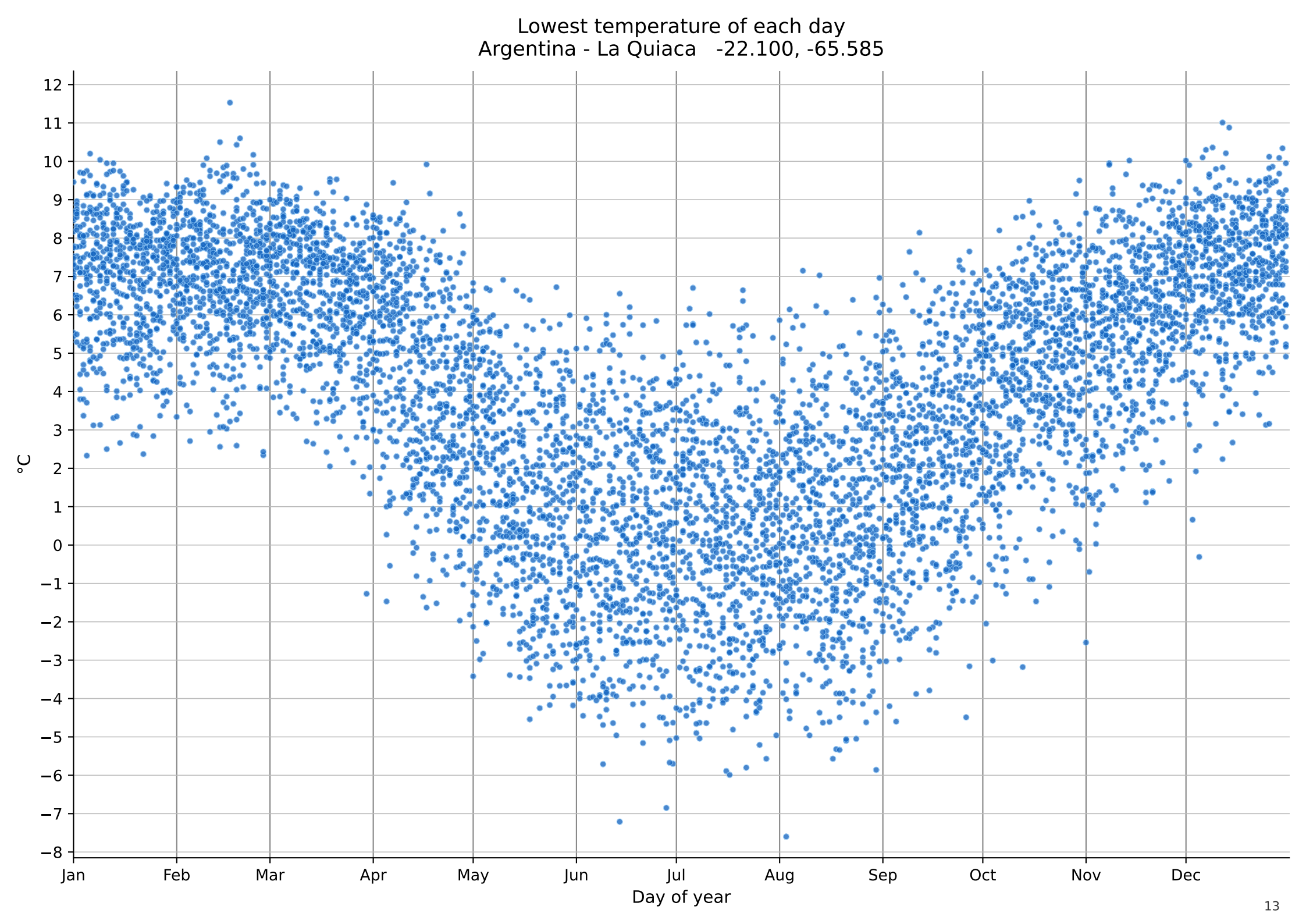

Yield distribution for each day — Wh / Wp of all PV together — 15:00–23:59
Argentina - La Quiaca -22.100, -65.585
Wh / Wp
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year

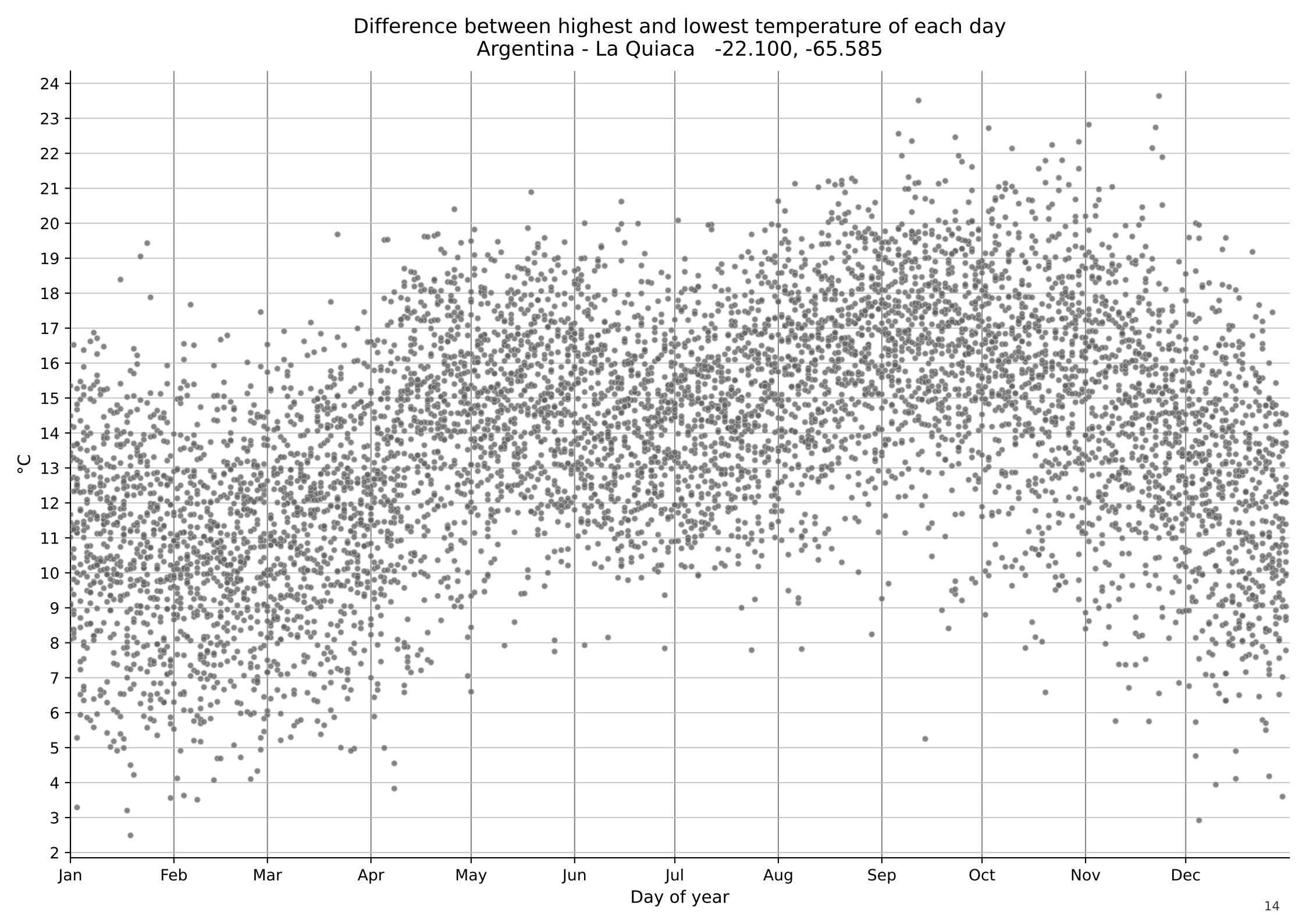

Share of the day’s yield in 09:00–15:00 winter time
Argentina - La Quiaca -22.100, -65.585
% of that day
100
90
80
70
60
50
40
30
20
10
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


Share of the day’s yield outside 09:00–15:00 winter time
Argentina - La Quiaca -22.100, -65.585
% of that day
100
90
80
70
60
50
40
30
20
10
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

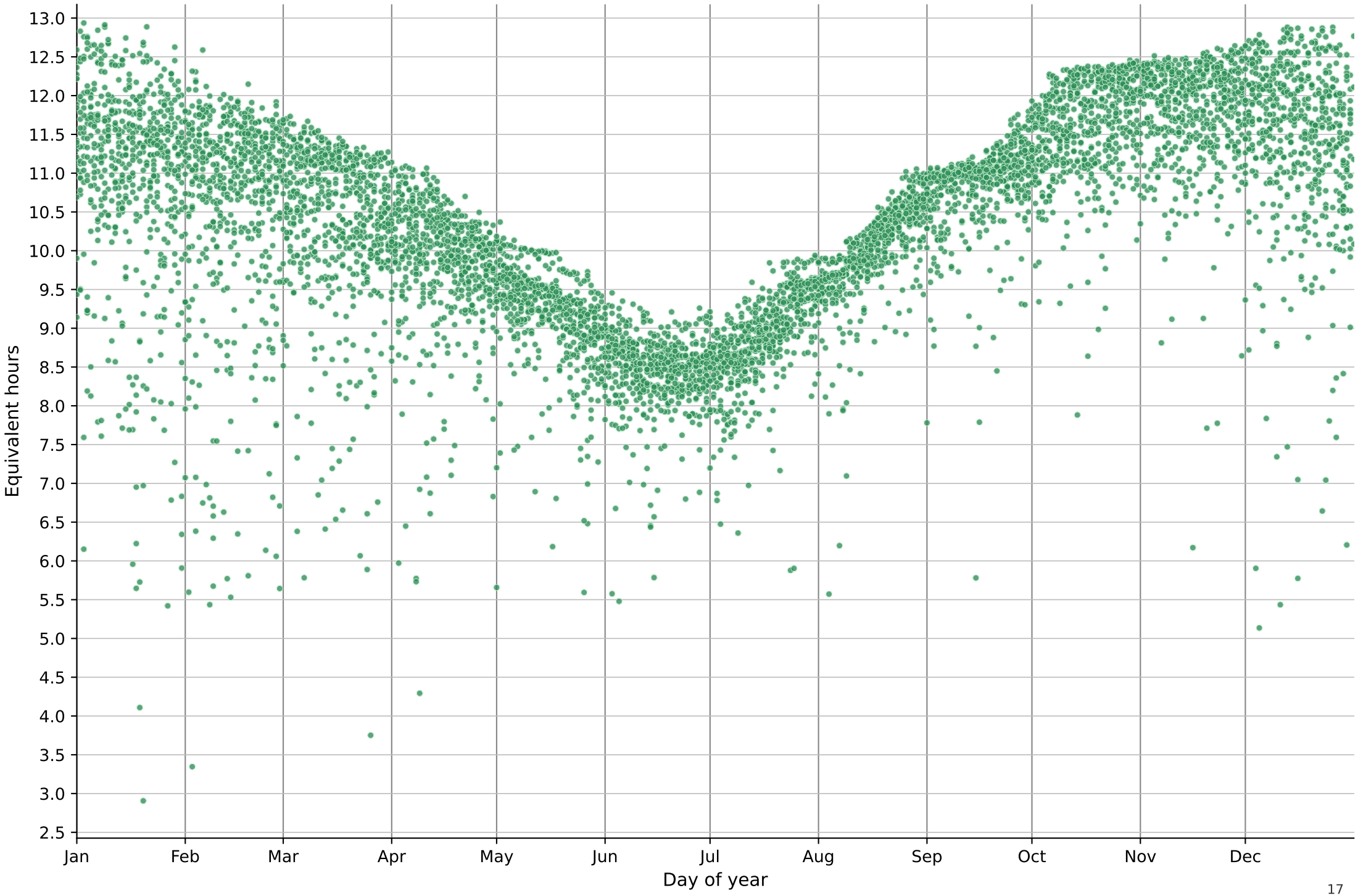
Month / year		Roof East 22°/-90° 19800 Wp	Roof West 22°/90° 19800 Wp	Terrace railing south 90°/0° 4620 Wp	Terrace railing north 90°/180° 4620 Wp	share central structure east p 8°/-90° 20460 Wp	share central strucure west p 8°/90° 20460 Wp	All together
January	Maximum	189.81	183.44	158.58	28.37	195.13	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	1926.8	1933.4	1005.2	740.4	1999.8	2001.5	1852.9
	average	1879.8	1872.3	975.2	729.5	1947.4	1943.3	1802.3
	minimum	1841.4	1847.4	950.1	721.3	1912.9	1916.7	1774.7

Highest combined yield hour: 2022-11-13 16:30 UTC 79636.6 W (0.887 W/Wp) of 89760 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° 19800 Wp	Roof West 22°/90° 19800 Wp	Terrace railing south 90°/0° 4620 Wp	Terrace railing north 90°/180° 4620 Wp	share central structure east 8°/-90° 20460 Wp	share central strucure west p 8°/90° 20460 Wp	All together
January	Maximum	3758.2	3632.0	732.6	131.1	3992.4	3941.1	16165.1
	average	3488.7	3370.6	675.4	116.5	3704.2	3657.4	15012.9
	minimum	3167.5	3103.6	611.2	107.2	3378.4	3351.5	13738.6
February	Maximum	3243.7	3242.9	584.0	196.3	3455.7	3468.8	14132.2
	average	2964.3	2949.0	530.8	181.6	3179.3	3170.6	12975.7
	minimum	2515.9	2536.2	441.6	167.7	2703.5	2709.1	11088.1
March	Maximum	3388.2	3310.8	441.6	370.1	3625.0	3592.2	14727.9
	average	3120.8	3109.5	413.4	351.8	3355.9	3348.9	13700.3
	minimum	2867.0	2948.1	390.9	333.6	3129.9	3167.5	12925.7
April	Maximum	2979.5	3021.6	196.9	387.1	3191.8	3197.3	12949.5
	average	2795.3	2832.5	194.1	373.2	3002.1	3014.7	12211.8
	minimum	2577.7	2630.1	188.7	355.0	2786.0	2806.5	11380.5
May	Maximum	2676.6	2752.6	72.7	406.6	2863.9	2895.4	11647.6
	average	2597.7	2668.8	66.7	397.6	2786.4	2812.1	11329.2
	minimum	2515.8	2581.7	62.5	387.0	2702.8	2727.1	10990.9
June	Maximum	2297.3	2435.8	30.4	304.4	2488.1	2539.6	10078.7
	average	2267.6	2396.3	24.3	300.5	2456.1	2503.7	9948.6
	minimum	2234.7	2343.6	20.9	294.4	2414.7	2455.4	9775.4
July	Maximum	2538.2	2683.7	51.6	357.5	2755.2	2811.0	11184.8
	average	2475.3	2584.7	43.0	349.7	2677.9	2718.9	10849.5
	minimum	2390.9	2479.7	39.2	341.6	2583.1	2616.0	10467.7
August	Maximum	3012.3	3054.1	143.3	435.6	3230.7	3246.0	13116.9
	average	2959.3	2990.2	138.3	427.8	3169.3	3180.6	12865.6
	minimum	2858.4	2900.4	134.8	416.3	3067.5	3083.7	12466.7
September	Maximum	3424.2	3521.4	356.8	420.0	3708.6	3749.9	15181.0
	average	3286.7	3301.7	344.7	405.4	3536.7	3542.0	14417.2
	minimum	3155.0	3148.5	335.6	392.5	3385.5	3382.6	13800.9
October	Maximum	4028.1	3961.6	662.3	264.9	4302.2	4278.6	17489.2
	average	3772.5	3704.9	619.5	257.5	4028.9	4004.7	16388.0
	minimum	3561.0	3405.3	580.3	250.5	3779.5	3715.9	15297.2
November	Maximum	4019.0	3853.0	776.5	131.1	4238.2	4182.7	17121.8
	average	3775.9	3607.1	730.7	123.3	4009.7	3938.8	16185.5
	minimum	3635.8	3442.1	701.3	115.5	3855.5	3773.8	15540.0
December	Maximum	4045.0	3759.3	787.0	102.5	4257.2	4135.8	17055.0
	average	3716.2	3555.6	724.6	85.6	3937.2	3867.7	15886.9
	minimum	3166.9	3236.1	626.1	73.0	3419.6	3445.0	13992.8
All years	Maximum	38151	38281	4644	3421	40915	40950	166319
	average	37220	37071	4505	3370	39844	39760	161771
	minimum	36459	36578	4390	3332	39138	39215	159296

Highest combined yield hour: 2022-11-13 16:30 UTC 79636.6 W (0.887 W/Wp) of 89760 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
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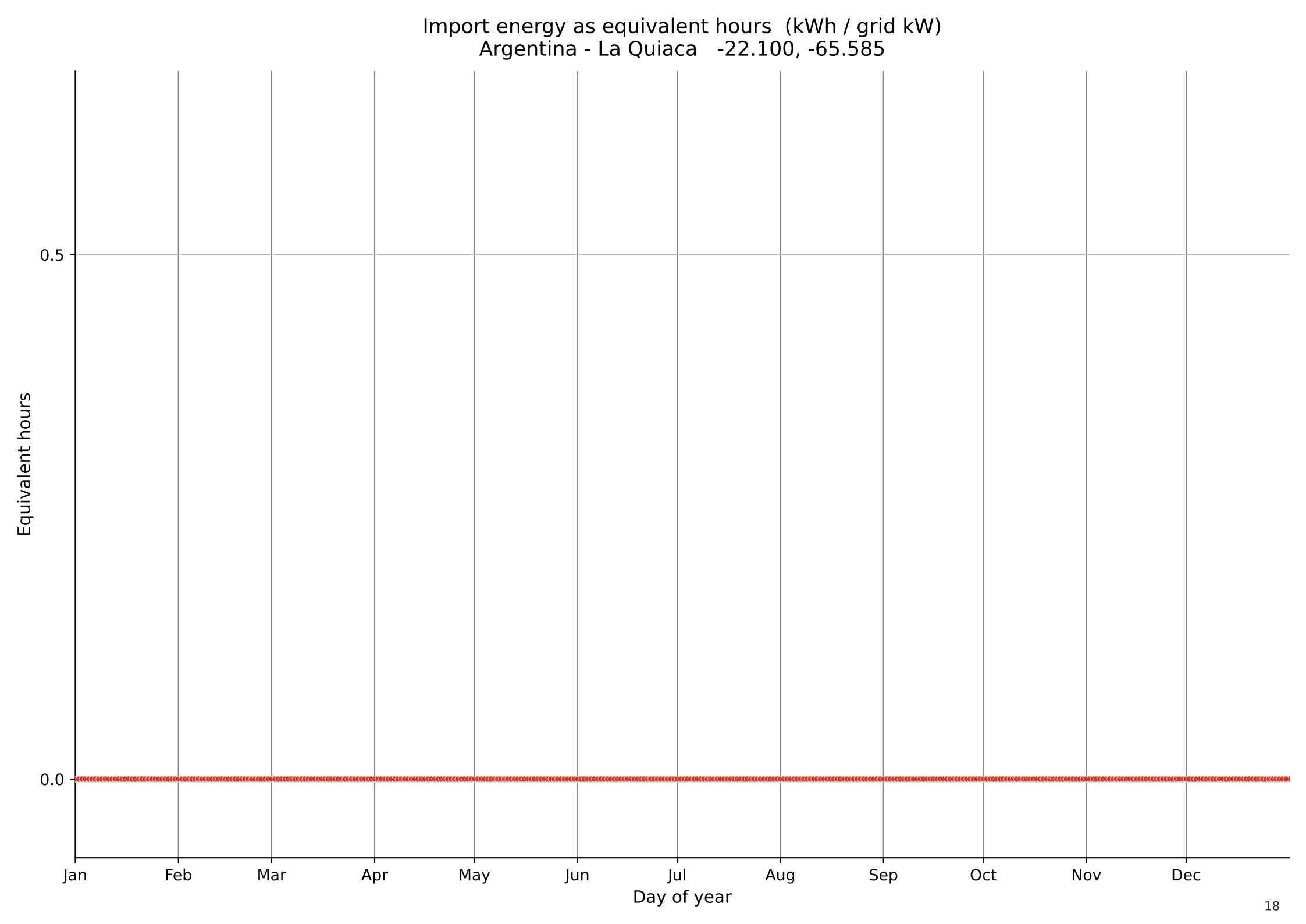
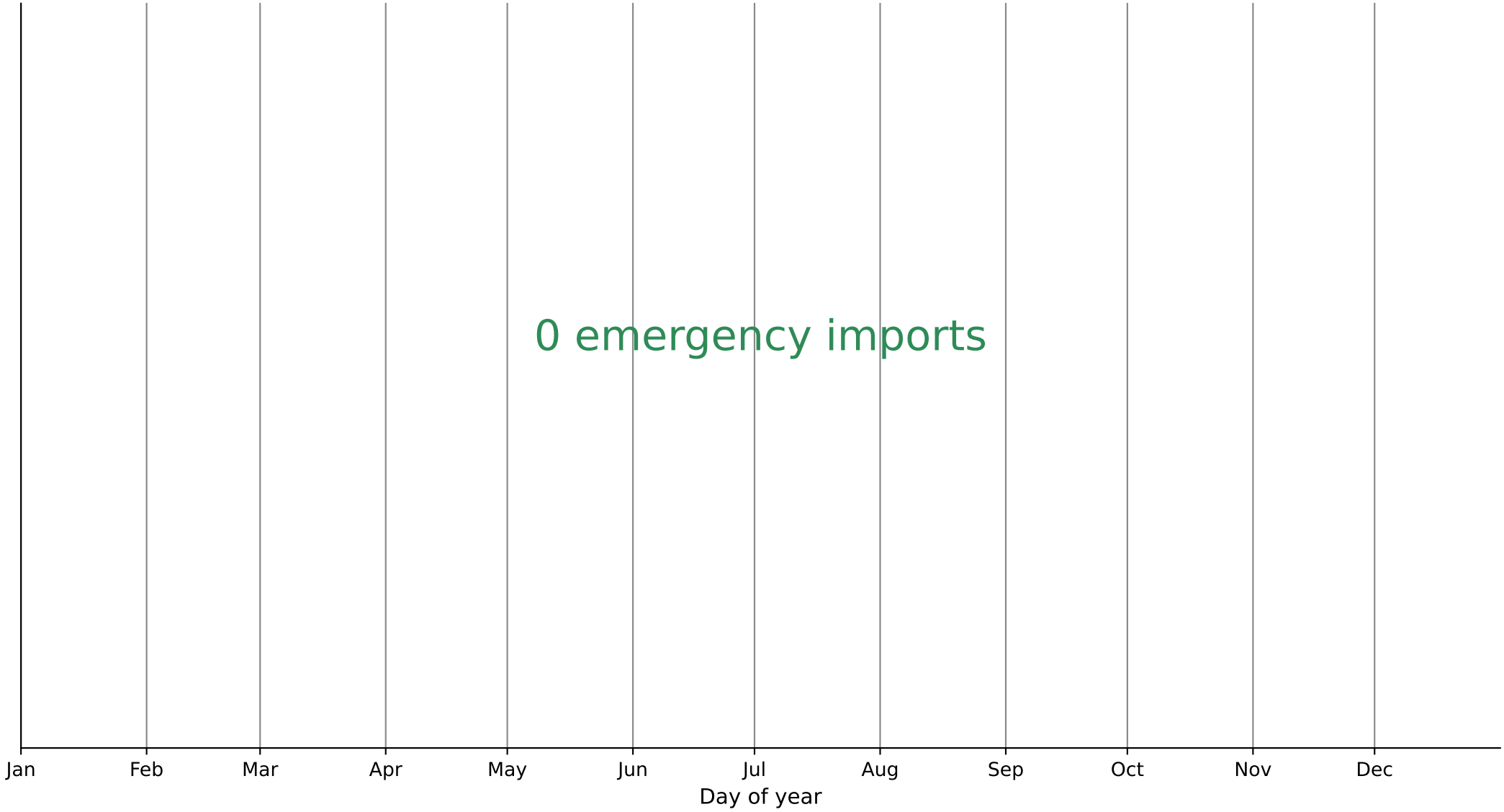
2.5
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Day of year


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	12132	10905	11492	10506	9911	8747	9631	10678	11356	12647	12440	12587	130464
month average	11575	10179	10951	10065	9688	8628	9359	10525	11074	12243	12049	12086	128421
month minimum	10941	9113	10477	9528	9417	8449	9027	10243	10758	11723	11765	11003	127326
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	7008
month average	565	517	569	565	605	599	623	613	573	568	544	560	6900
month minimum	550	495	555	548	594	584	604	600	556	550	524	542	6803
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	1374	1300	1399	1195	1238	1198	1250	1239	1159	1351	1315	1372	15099
month average	1342	1232	1359	1173	1216	1184	1227	1221	1137	1330	1283	1330	15034
month minimum	1303	1174	1332	1142	1186	1152	1203	1193	1113	1311	1253	1284	14956
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	1374	1300	1399	1195	1238	1198	1250	1239	1159	1351	1315	1372	15099
month average	1342	1232	1359	1173	1216	1184	1227	1221	1137	1330	1283	1330	15034
month minimum	1303	1174	1332	1142	1186	1152	1203	1193	1113	1311	1253	1284	14956
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	12132	10905	11492	10506	9911	8747	9631	10678	11356	12647	12440	12587	130464
month average	11575	10179	10951	10065	9688	8628	9359	10525	11074	12243	12049	12086	128421
month minimum	10941	9113	10477	9528	9417	8449	9027	10243	10758	11723	11765	11003	127326
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	4565	4572	5114	5072	5375	5402	5537	5149	4503	4224	3888	4475	56784
month average	4419	4301	4919	4913	5307	5372	5476	5071	4391	4089	3777	4108	56145
month minimum	4307	4093	4710	4787	5245	5352	5428	5026	4294	3945	3574	3907	55529
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	4576	3949	3863	3273	2622	2094	2480	3230	3886	4668	4785	4751	42795
month average	4290	3559	3521	2979	2490	2017	2350	3135	3670	4392	4493	4528	41425
month minimum	3940	2978	3210	2607	2316	1917	2188	2939	3450	4066	4240	3904	40656
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	3235	2719	2954	2446	2061	1318	1723	2415	3176	4035	4025	3930	32140
month average	2866	2319	2511	2173	1890	1239	1533	2319	3013	3761	3779	3450	30852
month minimum	2457	1734	2166	1819	1719	1137	1303	2155	2841	3433	3603	2625	29816
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

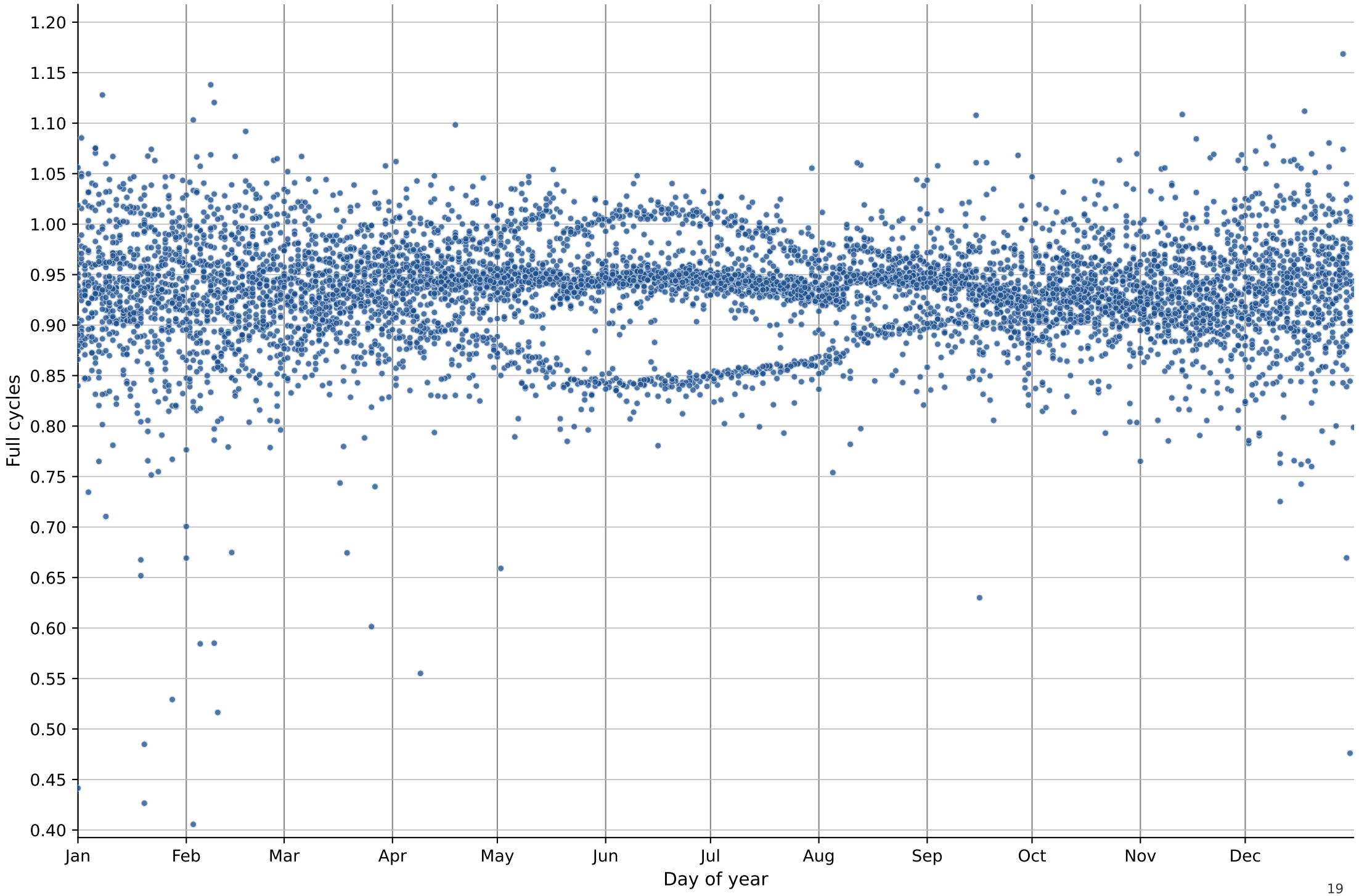
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Heating													
month Maximum	99	93	107	112	129	139	143	133	118	107	98	101	1299
month average	87	81	90	95	118	127	131	123	101	90	81	81	1204
month minimum	72	64	78	80	108	113	114	111	85	73	62	65	1119
day Maximum	4.2	4.4	4.1	4.8	5.4	6.5	6.2	6.2	5.3	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
month average	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
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
day average	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 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	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

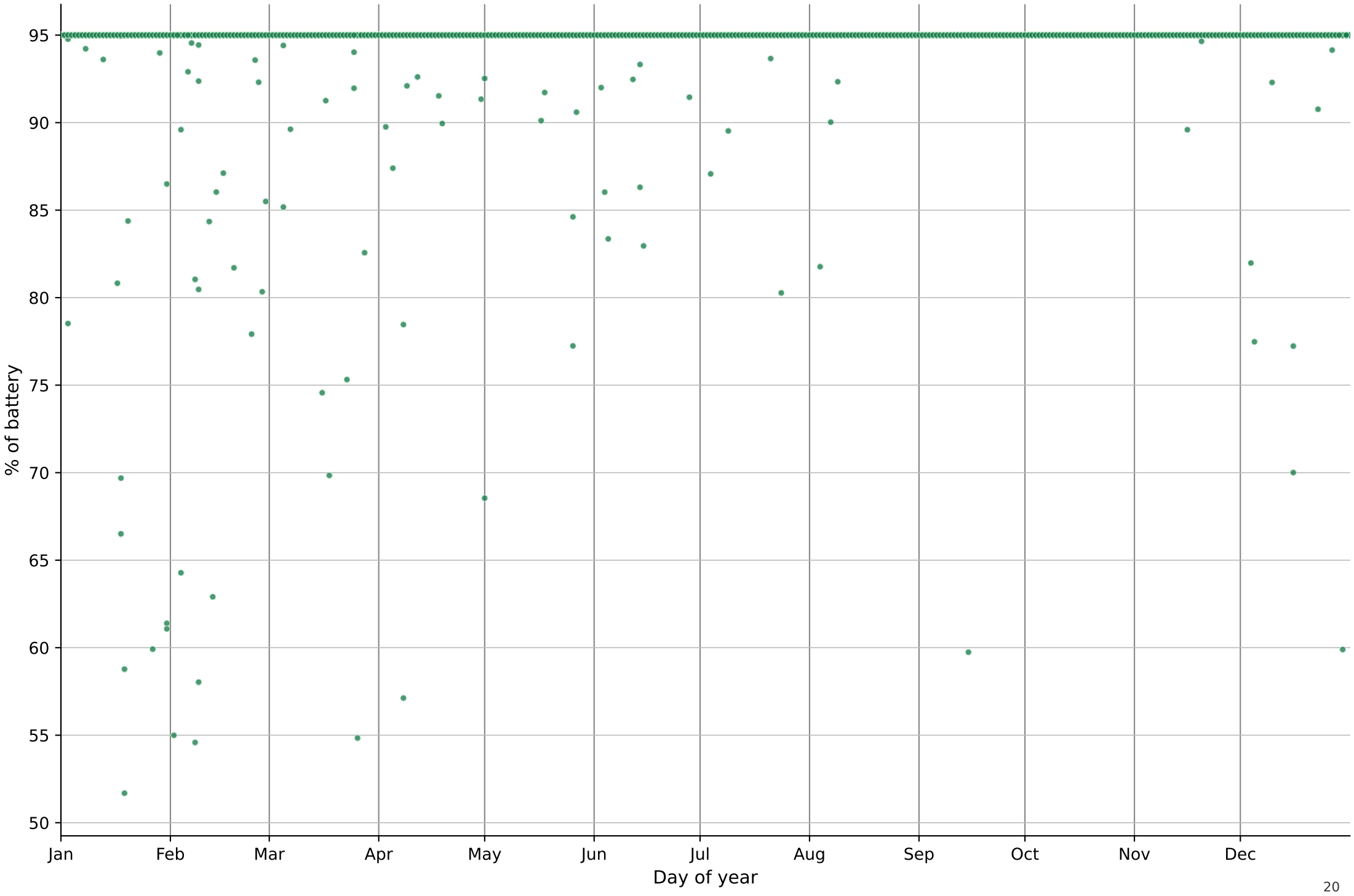
Heating, cooling and DHW are electricity. Direct electric is the part the heat pump could not cover.

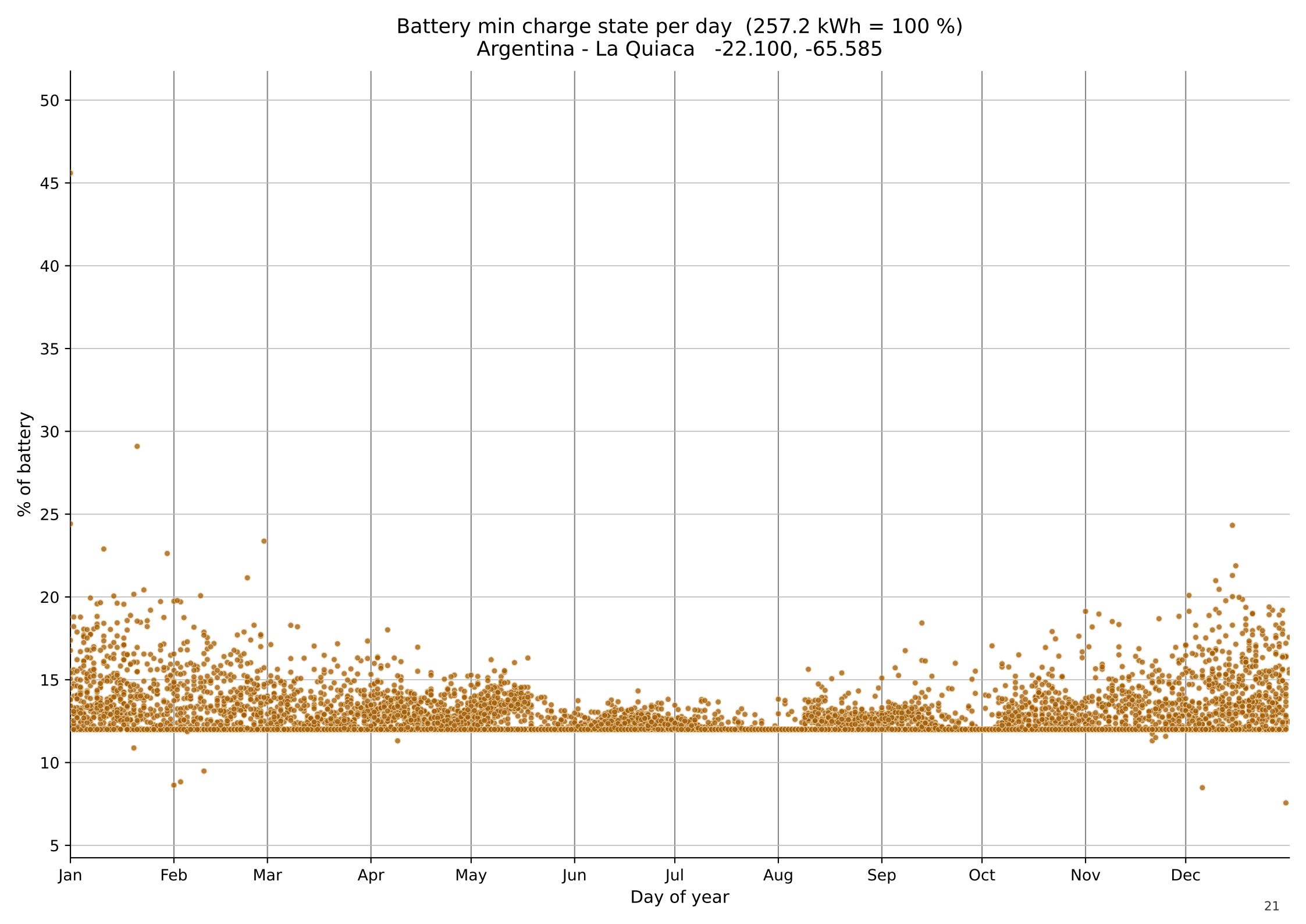
Battery
Argentina - La Quiaca -22.100, -65.585

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Wasted													
month Maximum	2846	2253	2073	1306	566	147	312	1223	2647	3655	3533	3336	21730
month average	2276	1728	1589	1002	433	132	255	1115	2180	2970	3008	2624	19313
month minimum	1619	922	1181	703	363	105	212	990	1827	2399	2670	1705	17888
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	29.22	27.12	29.11	28.31	29.29	28.34	29.13	29.14	28.10	29.00	28.04	29.16	342.54
month average	28.91	26.22	28.94	28.18	29.11	28.22	28.97	29.05	27.94	28.85	27.90	28.96	341.25
month minimum	28.29	25.63	28.44	27.75	28.88	27.94	28.82	28.93	27.51	28.70	27.71	28.58	340.28
day Maximum	1.13	1.14	1.07	1.10	1.05	1.05	1.06	1.06	1.11	1.07	1.11	1.17	1.17
day average	0.93	0.93	0.93	0.94	0.94	0.94	0.93	0.94	0.93	0.93	0.93	0.93	0.93
day minimum	0.43	0.41	0.60	0.56	0.66	0.78	0.79	0.75	0.63	0.77	0.79	0.48	0.41
Charge C													
month Maximum	0.28	0.28	0.27	0.25	0.24	0.21	0.23	0.26	0.27	0.28	0.28	0.28	3.04
month average	0.27	0.27	0.26	0.25	0.23	0.21	0.22	0.25	0.26	0.27	0.27	0.27	3.02
month minimum	0.26	0.25	0.25	0.24	0.22	0.21	0.22	0.24	0.26	0.26	0.26	0.26	3.00
day Maximum	0.28	0.28	0.27	0.25	0.24	0.21	0.23	0.26	0.27	0.28	0.28	0.28	0.28
day average	0.23	0.23	0.23	0.23	0.21	0.20	0.21	0.23	0.25	0.25	0.25	0.24	0.23
day minimum	0.09	0.07	0.07	0.08	0.11	0.12	0.15	0.13	0.08	0.18	0.15	0.12	0.07
Discharge C													
month Maximum	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	1.75
month average	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.14	1.74
month minimum	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.73
day Maximum	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
day average	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
day minimum	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

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
Jun
Jul
Aug
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