

Scenario — PV

GEMINI-60-house-part-of-a-settlement Egypt - Cairo 29.953, 31.153

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 structure west part	8	90	20460	—	front	—	yes
Total counted			89760				

Location: This location is typical for North Africa.

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 2021-04-10 11:09 local (10:09 UTC) 66416 W 0.740 W/Wp of 89760 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
GEMINI-60-house-part-of-a-settlement

Egypt - Cairo 29.953, 31.153

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	16 °C 22 °C 26 °C 20 °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	54.0 kW / 27.0 kW
	Max export	27.0 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

Records 1-10 — contribution of each PV
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PV	2021-04-10 10:09	2015-04-25 10:09	2005-04-25 10:09	2015-04-23 10:09	2007-04-25 10:09	2021-04-10 09:09	2019-04-21 10:09	2019-04-21 09:09	2022-04-21 10:09	2017-04-25 10:09
Roof East	15080	14897	14883	14853	14860	16322	14841	16259	14825	14791
Roof West	15691	15633	15609	15572	15596	13919	15540	14104	15532	15519
Terrace railing south	1967	1534	1536	1594	1529	1917	1653	1618	1627	1527
Terrace railing north	231	224	216	248	225	230	261	240	216	226
share central structure east part	16608	16442	16415	16383	16403	16904	16358	16909	16357	16320
share central strucure west part	16838	16719	16687	16653	16680	16000	16621	16099	16623	16594
Watt at record	66416	65450	65346	65304	65294	65292	65274	65229	65181	64977
Percent of installed peak	74.0	72.9	72.8	72.8	72.7	72.7	72.7	72.7	72.6	72.4

Hours at or above a share of the record
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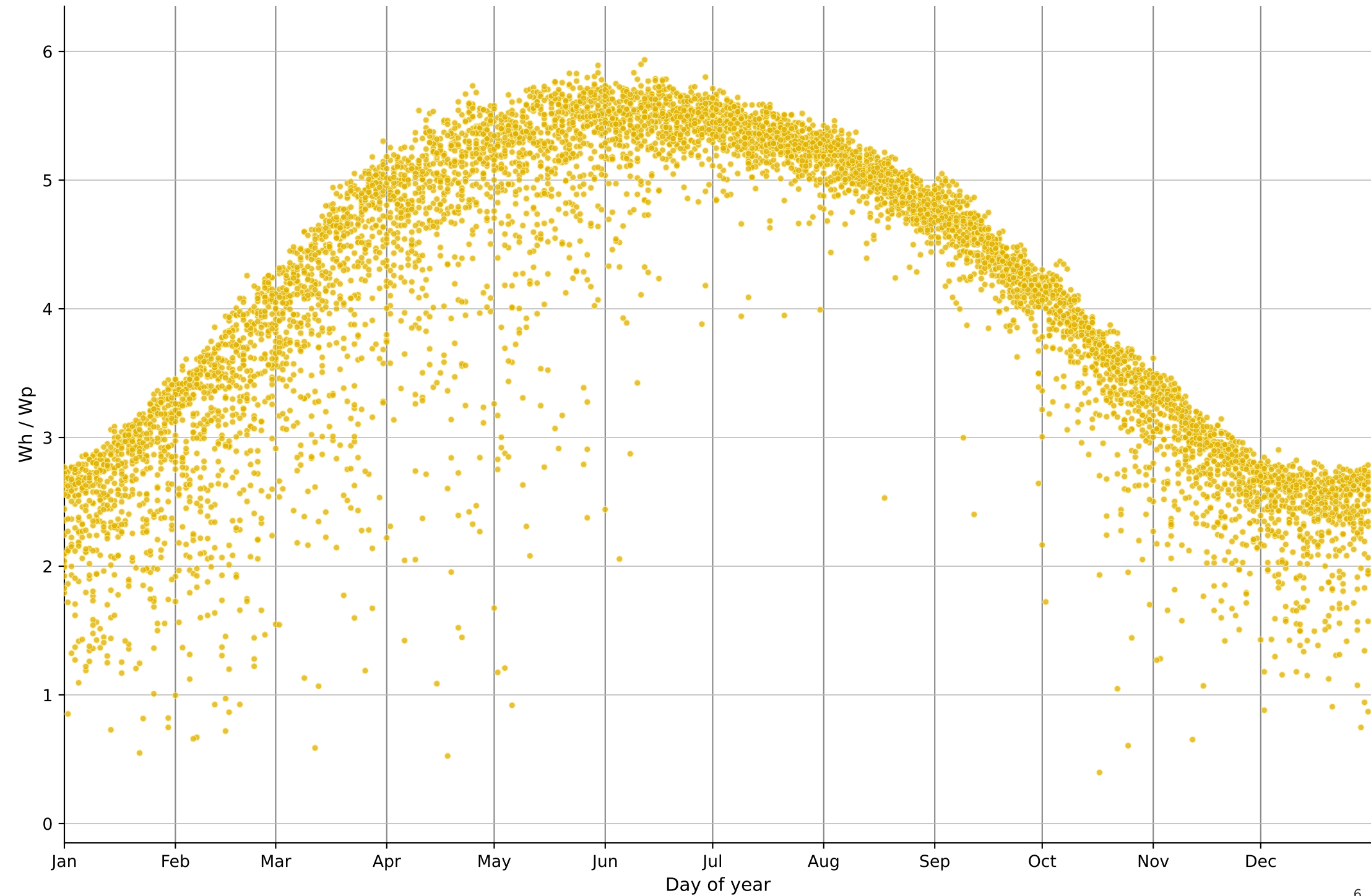
Of the record	Hours	Watts
98 %	9	65087 W
96 %	54	63759 W
94 %	254	62431 W
92 %	827	61102 W
90 %	1901	59774 W

Records of each photovoltaic field
Egypt - Cairo 29.953, 31.153

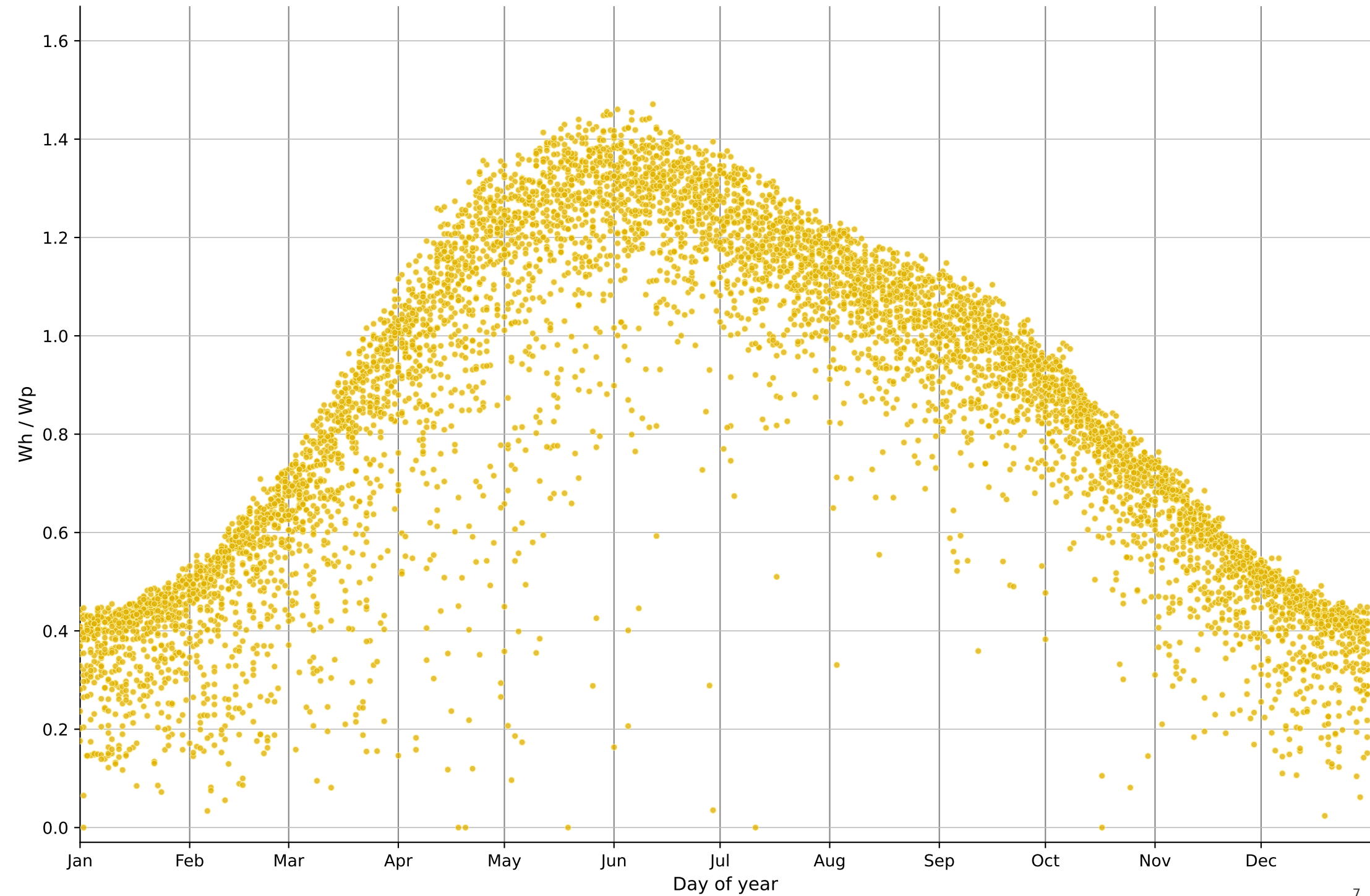
PV	Date	Watts	%	h ≥98%	h ≥96%	h ≥94%	h ≥92%	h ≥90%
Roof East	2007-04-25 08:09	16444	83.1	19	121	419	1171	2420
Roof West	2005-04-25 11:09	16543	83.6	5	21	144	537	1517
Terrace railing south	2008-01-14 10:09	3425	74.1	4	13	57	138	297
Terrace railing north	2005-06-29 15:09	879	19.0	3	6	8	15	38
share central structure east part	2019-04-21 09:09	16909	82.6	18	82	386	1158	2580
share central strucure west part	2021-04-10 10:09	16838	82.3	10	83	406	1193	2695

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.

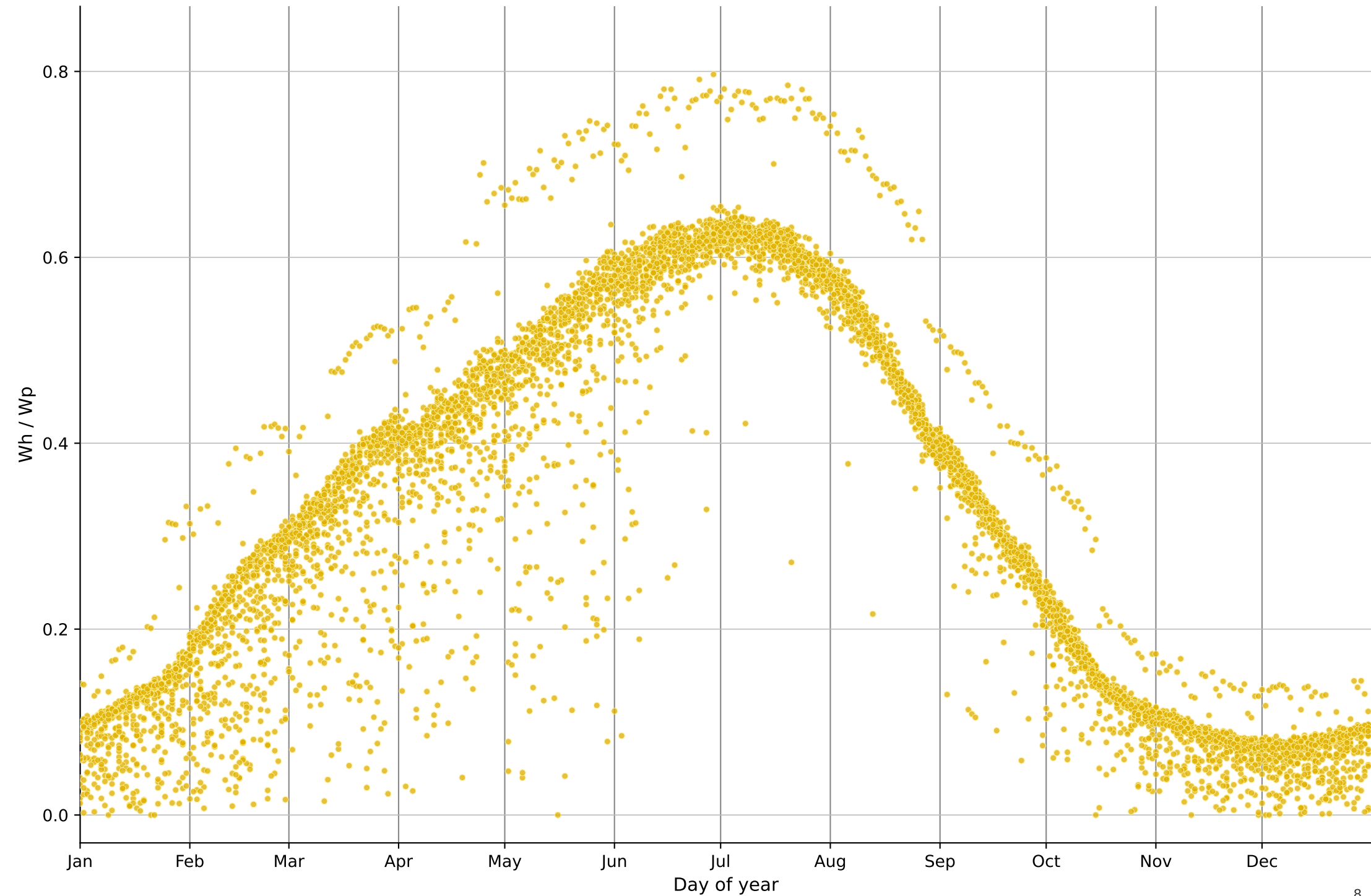
Yield distribution for each day — W_h / W_p of all PV together
Egypt - Cairo 29.953, 31.153



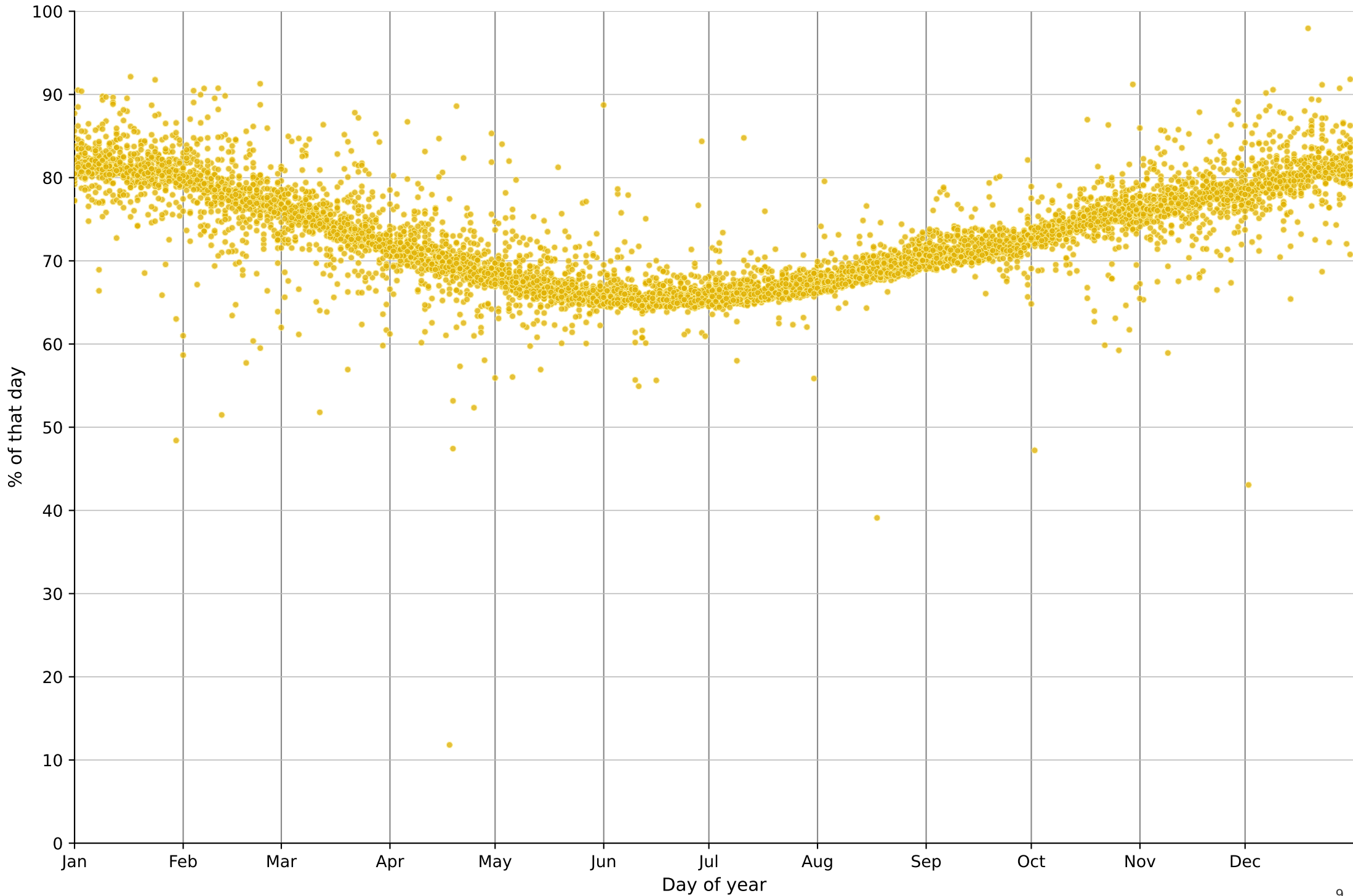
Yield distribution for each day — Wh / Wp of all PV together — 00:00-09:00
Egypt - Cairo 29.953, 31.153



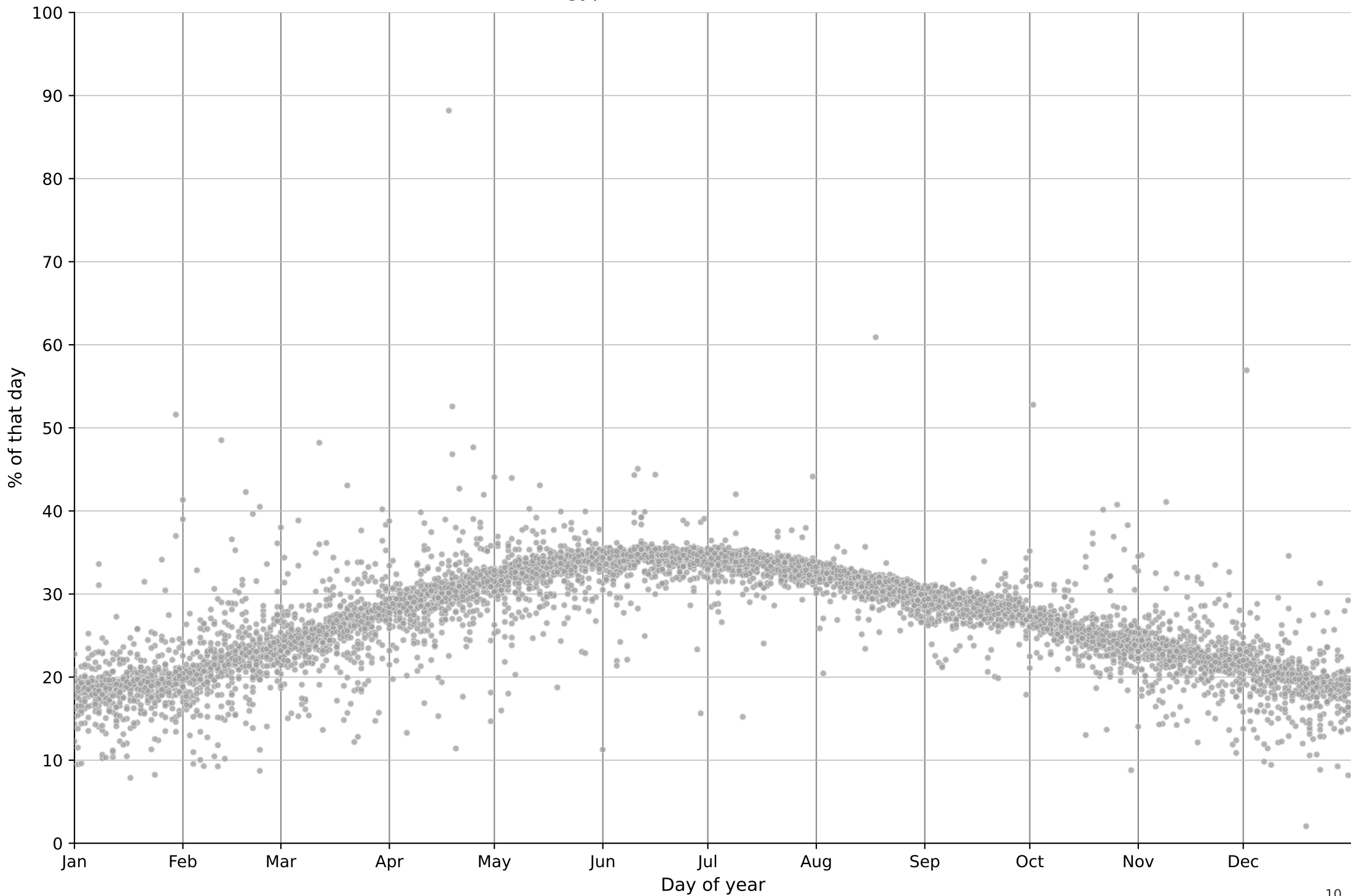
Yield distribution for each day — Wh / Wp of all PV together — 15:00-23:59
Egypt - Cairo 29.953, 31.153



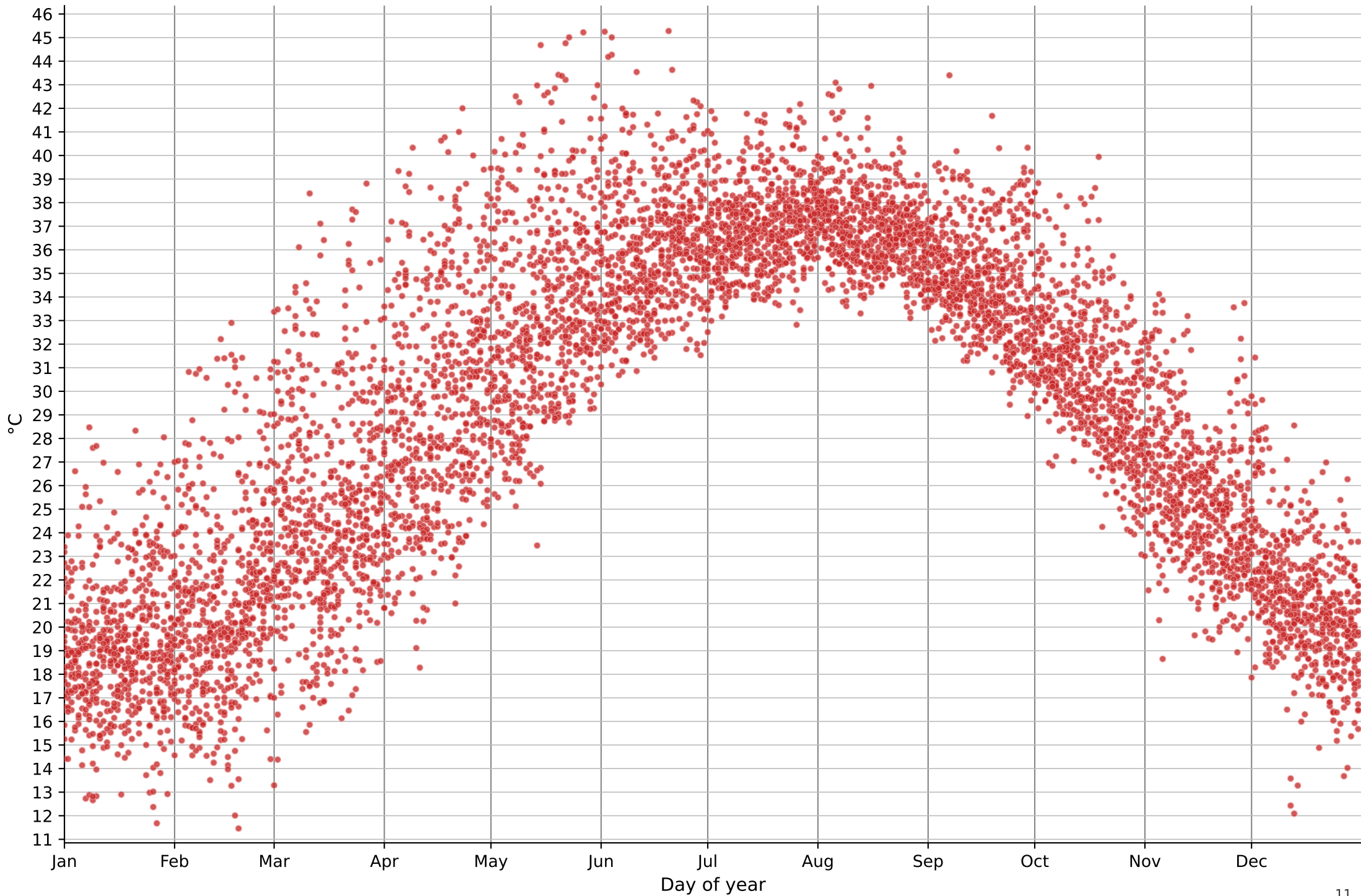
Share of the day's yield in 09:00-15:00 winter time
Egypt - Cairo 29.953, 31.153



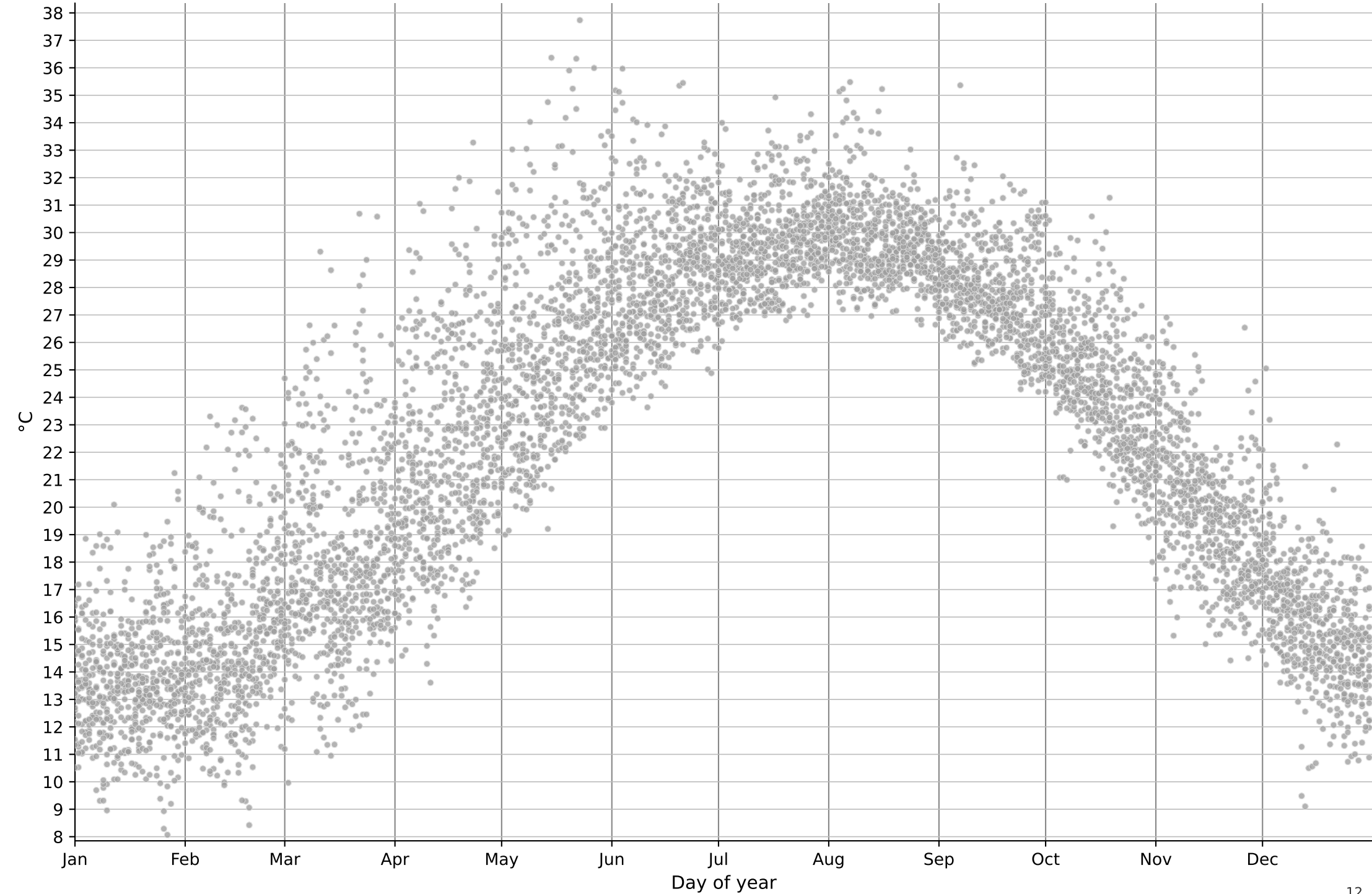
Share of the day's yield outside 09:00-15:00 winter time
Egypt - Cairo 29.953, 31.153



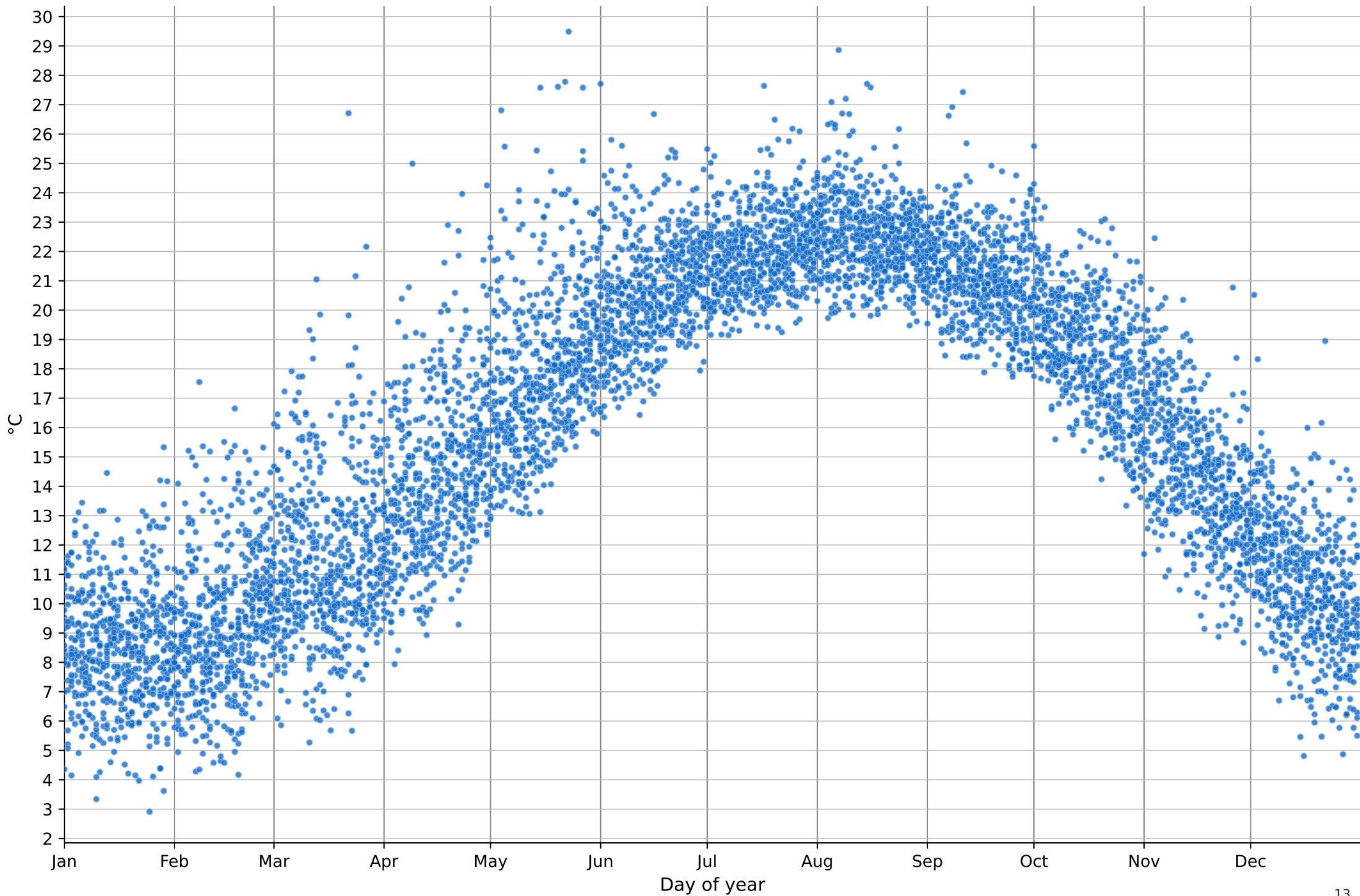
Highest temperature of each day
Egypt - Cairo 29.953, 31.153



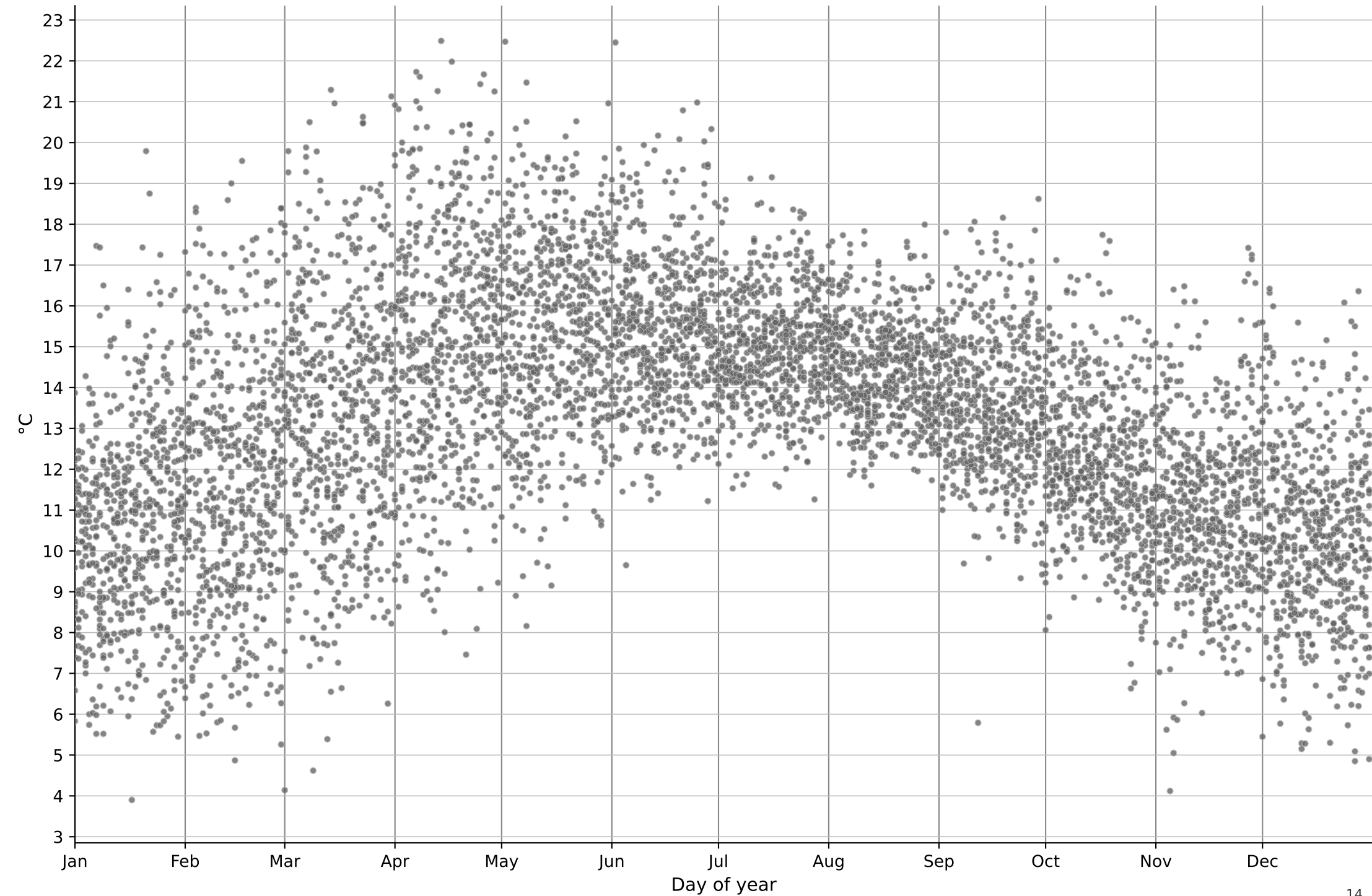
Average temperature of each day
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Lowest temperature of each day
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Difference between highest and lowest temperature of each day
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Monthly and yearly specific yield (kWh/kWp = Wh/Wp)
Egypt - Cairo 29.953, 31.153

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 structure west 8°/90° 20460 Wp	All together
January	Maximum	92.92	90.76	30.84	12.73	94.15	93.73	85.12
	average	86.11	83.78	27.86	11.37	87.46	86.69	79.19
	minimum	74.72	73.32	24.52	9.09	75.74	75.23	68.84
February	Maximum	103.99	100.12	65.64	15.61	105.65	104.02	96.77
	average	96.52	93.59	60.15	13.38	98.06	96.98	90.18
	minimum	85.16	85.36	55.04	12.37	90.56	89.34	83.60
March	Maximum	139.41	142.20	83.99	18.64	143.60	145.15	132.07
	average	132.53	134.69	80.64	17.40	137.87	138.95	127.09
	minimum	125.92	127.76	75.76	16.13	130.76	131.49	120.58
April	Maximum	160.28	162.73	70.52	22.30	167.30	168.41	152.36
	average	149.17	152.50	68.10	20.36	155.99	157.55	142.57
	minimum	132.30	140.51	64.07	18.50	141.97	146.17	131.72
May	Maximum	176.81	193.56	47.02	29.32	184.60	191.27	167.29
	average	166.60	169.53	44.47	26.89	174.20	175.55	157.54
	minimum	153.24	148.55	40.55	24.30	157.95	156.17	141.52
June	Maximum	174.94	187.53	32.46	28.98	184.39	187.42	166.17
	average	170.17	176.43	30.25	26.85	179.27	182.21	161.79
	minimum	162.70	166.15	29.11	25.48	170.89	172.45	153.76
July	Maximum	174.13	190.85	36.26	26.41	183.86	189.76	166.49
	average	171.67	180.59	35.28	25.65	181.65	185.79	164.59
	minimum	163.73	175.87	34.32	25.06	177.53	181.85	161.68
August	Maximum	165.16	181.77	56.82	19.00	173.02	178.03	157.17
	average	160.25	167.66	56.08	18.00	168.88	172.07	153.86
	minimum	151.59	158.56	53.04	16.62	160.23	162.89	145.81
September	Maximum	140.89	153.91	82.17	15.96	147.17	152.47	135.58
	average	138.05	142.81	80.91	14.15	144.34	146.53	133.15
	minimum	131.45	136.72	78.64	13.27	140.15	141.38	129.03
October	Maximum	123.35	128.72	79.11	15.61	127.88	128.61	117.67
	average	116.38	117.50	74.62	13.06	120.62	121.17	111.22
	minimum	108.08	109.71	69.68	11.46	113.18	113.72	104.79
November	Maximum	95.54	96.69	46.82	12.07	96.99	96.96	88.49
	average	90.11	89.75	44.13	10.88	92.34	92.33	84.60
	minimum	83.62	80.67	40.34	9.41	86.77	84.82	78.83
December	Maximum	85.92	86.35	11.85	11.85	87.34	86.55	78.16
	average	81.12	80.04	10.34	10.34	82.55	82.23	74.17
	minimum	74.18	70.88	9.10	9.10	74.95	73.68	67.10
All years	Maximum	1592.9	1697.8	627.4	213.0	1656.3	1684.5	1506.6
	average	1558.7	1588.9	612.8	208.3	1623.2	1638.0	1480.0
	minimum	1476.9	1551.8	600.7	201.7	1586.7	1608.0	1455.1

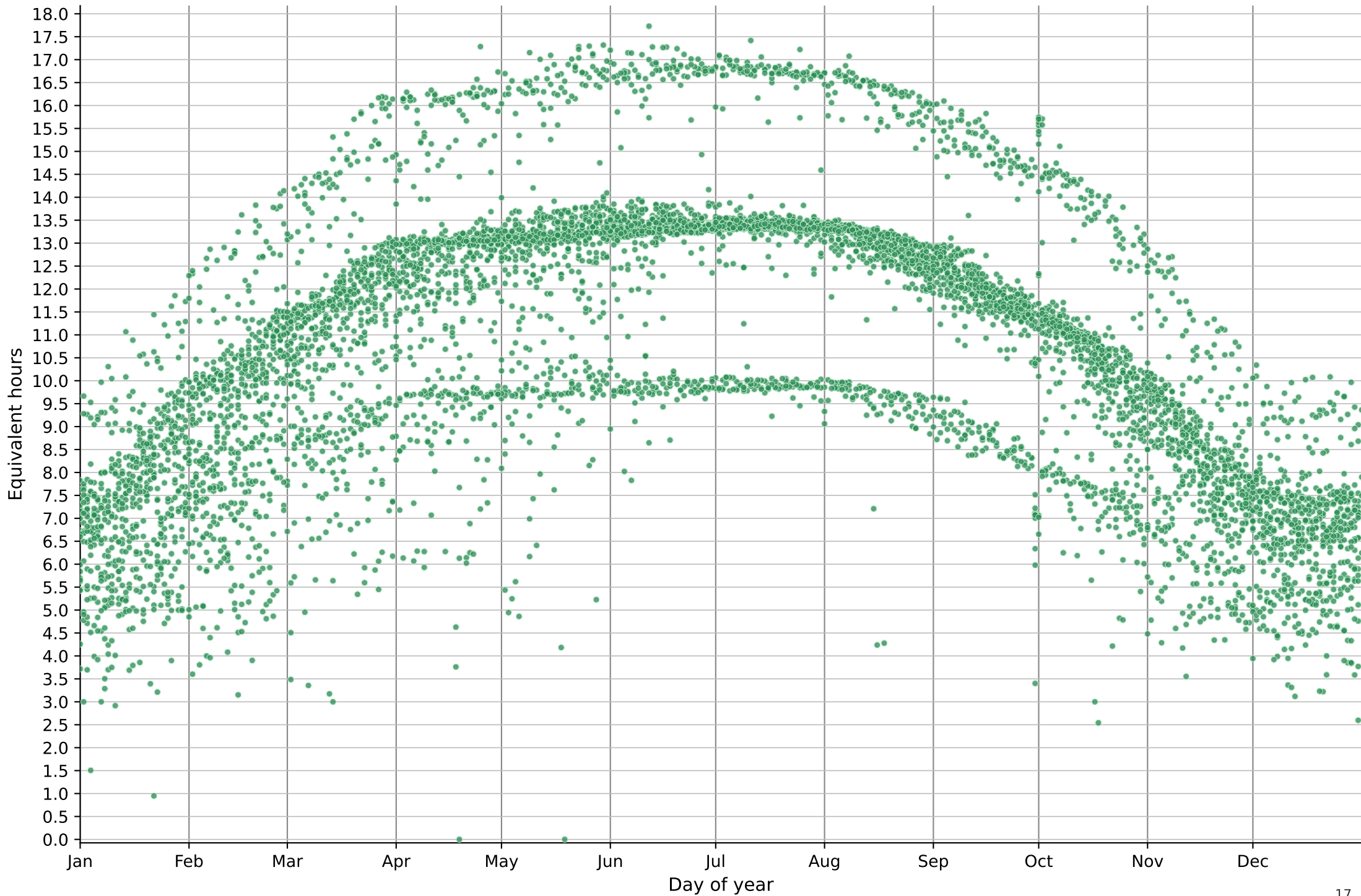
Highest combined yield hour: 2021-04-10 10:09 UTC 66415.7 W (0.740 W/Wp) of 89760 Wp installed. Use this hour to size battery charge power.

Monthly and yearly total yield (kWh)
Egypt - Cairo 29.953, 31.153

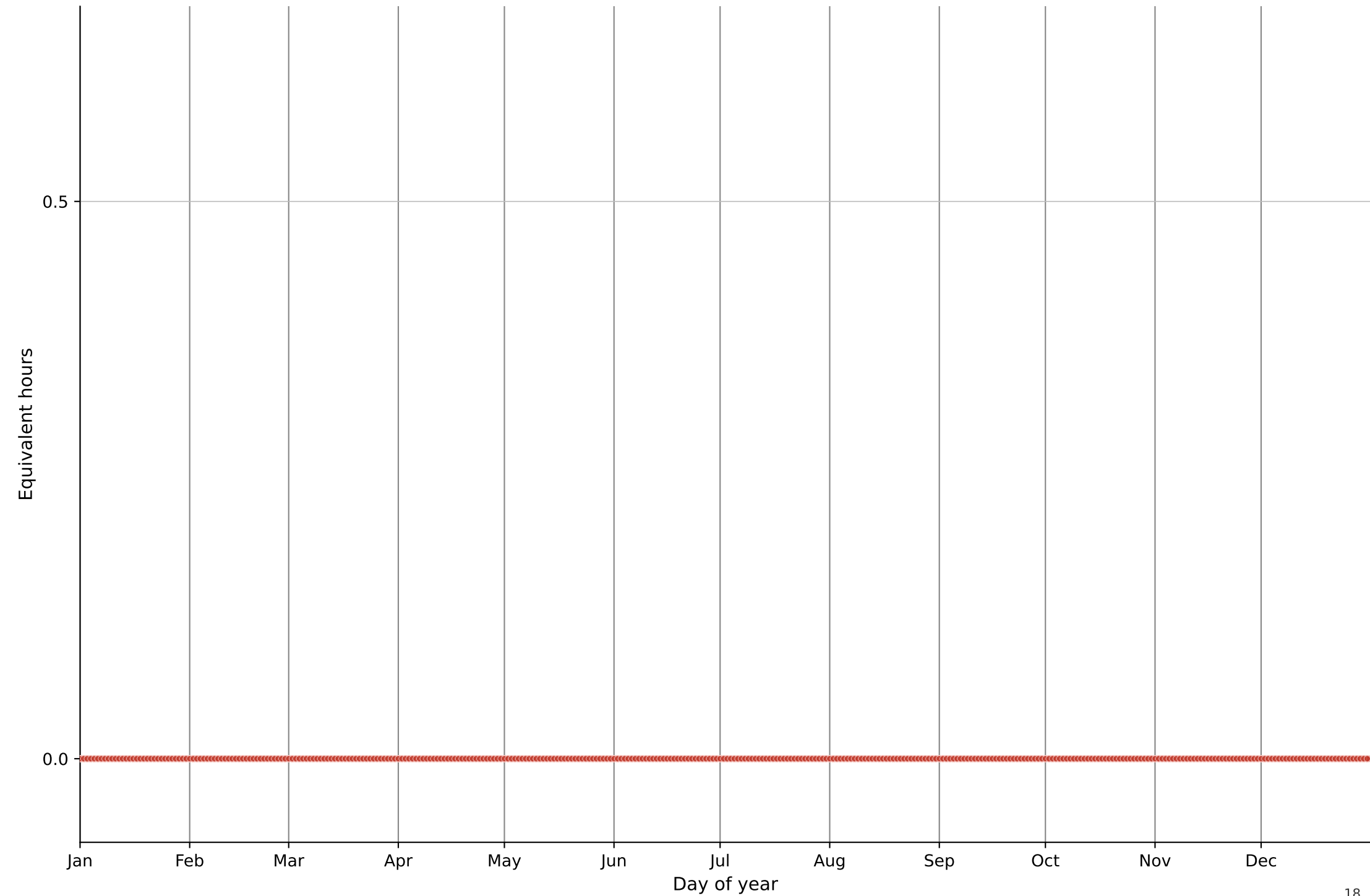
Month / year		Roof East 22°/-90° 19800 Wp	Roof West 22°/-90° 19800 Wp	Terrace railing south 90°/0° 4620 Wp	Terrace railing north 90°/180° 4620 Wp	Share central structure east 8°/-90° 20460 Wp	Share central structure west 8°/90° 20460 Wp	All together
January	Maximum	1839.9	1797.1	142.5	58.8	1926.2	1917.6	7640.1
	average	1705.0	1658.9	128.7	52.5	1789.4	1773.8	7108.3
	minimum	1479.5	1451.7	113.3	42.0	1549.7	1539.1	6179.4
February	Maximum	2058.9	1982.3	303.3	72.1	2161.6	2128.3	8685.9
	average	1911.0	1853.0	277.9	61.8	2006.3	1984.2	8094.3
	minimum	1686.2	1690.1	254.3	57.1	1852.8	1827.8	7504.4
March	Maximum	2760.3	2815.6	388.0	86.1	2938.2	2969.8	11854.4
	average	2624.1	2666.9	372.5	80.4	2820.8	2842.9	11407.6
	minimum	2493.2	2529.7	350.0	74.5	2675.4	2690.3	10822.8
April	Maximum	3173.5	3222.0	325.8	103.0	3423.1	3445.6	13675.5
	average	2953.6	3019.6	314.6	94.1	3191.6	3223.5	12796.9
	minimum	2619.6	2782.0	296.0	85.5	2904.8	2990.5	11823.4
May	Maximum	3500.9	3832.5	217.2	135.5	3776.8	3913.3	15016.1
	average	3298.8	3356.7	205.4	124.2	3564.1	3591.8	14140.9
	minimum	3034.2	2941.2	187.3	112.3	3231.6	3195.2	12703.2
June	Maximum	3463.9	3713.2	150.0	133.9	3772.6	3834.5	14915.4
	average	3369.3	3493.3	139.8	124.0	3667.9	3727.9	14522.2
	minimum	3221.5	3289.8	134.5	117.7	3496.4	3528.3	13801.8
July	Maximum	3447.8	3778.9	167.5	122.0	3761.9	3882.5	14943.9
	average	3399.1	3575.6	163.0	118.5	3716.5	3801.3	14774.0
	minimum	3241.9	3482.2	158.6	115.8	3632.2	3720.7	14512.1
August	Maximum	3270.1	3599.1	262.5	87.8	3540.0	3642.4	14108.0
	average	3173.0	3319.6	259.1	83.2	3455.3	3520.5	13810.6
	minimum	3001.5	3139.4	245.1	76.8	3278.3	3332.6	13088.3
September	Maximum	2789.6	3047.4	379.6	73.7	3011.1	3119.6	12170.0
	average	2733.4	2827.7	373.8	65.4	2953.1	2997.9	11951.3
	minimum	2602.7	2707.1	363.3	61.3	2867.4	2892.6	11581.7
October	Maximum	2442.4	2548.7	365.5	72.1	2616.3	2631.3	10562.0
	average	2304.4	2326.5	344.7	60.4	2467.9	2479.1	9982.9
	minimum	2140.0	2172.3	321.9	52.9	2315.6	2326.7	9406.2
November	Maximum	1891.7	1914.4	216.3	55.8	1984.5	1983.8	7942.8
	average	1784.1	1777.0	203.9	50.3	1889.2	1889.1	7593.6
	minimum	1655.8	1597.3	186.4	43.5	1775.4	1735.4	7075.9
December	Maximum	1701.2	1709.7	54.7	54.7	1786.9	1770.8	7015.8
	average	1606.3	1584.7	47.8	47.8	1688.9	1682.3	6657.7
	minimum	1468.8	1403.4	42.0	42.0	1533.5	1507.5	6022.7
All years	Maximum	31539	33615	2899	984	33887	34465	135230
	average	30862	31459	2831	963	33211	33514	132841
	minimum	29243	30725	2775	932	32465	32900	130607

Highest combined yield hour: 2021-04-10 10:09 UTC 66415.7 W (0.740 W/Wp) of 89760 Wp installed. Use this hour to size battery charge power.

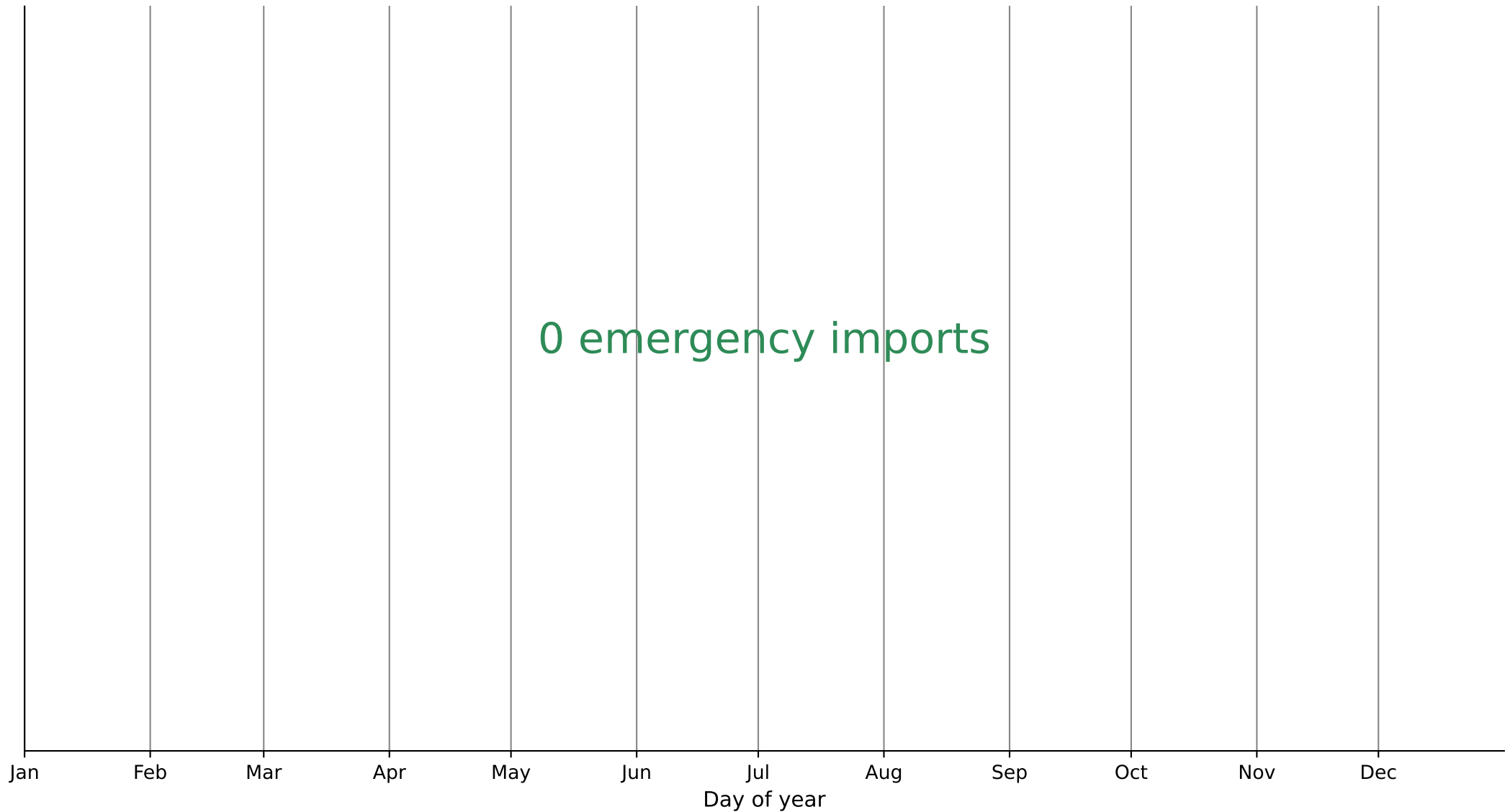
Export energy as equivalent hours (kWh / grid kW)
Egypt - Cairo 29.953, 31.153



Import energy as equivalent hours (kWh / grid kW)
Egypt - Cairo 29.953, 31.153



Emergency import hours: 0 days with an emergency: 0
Egypt - Cairo 29.953, 31.153



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
Egypt - Cairo 29.953, 31.153

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Export to grid													
month Maximum	6544	7454	9766	10389	11318	11009	11285	10996	9685	9115	6931	5923	107359
month average	6053	6927	9255	9903	10664	10744	11146	10810	9552	8652	6574	5616	105895
month minimum	5232	6465	8801	9238	9693	10361	11028	10596	9257	8059	6109	5023	104373
day Maximum	320.1	381.8	437.2	466.7	467.6	478.7	470.3	461.0	434.7	425.1	347.5	279.2	478.7
day average	195.3	245.6	298.6	330.1	344.0	358.1	359.5	348.7	318.4	279.1	219.1	181.1	290.0
day minimum	25.6	85.1	81.0	0.0	0.0	211.3	249.1	114.4	91.8	68.6	95.9	70.1	0.0
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	558	509	528	462	479	496	510	515	485	477	482	532	5881
month average	541	481	501	452	465	476	497	499	466	467	460	516	5821
month minimum	522	456	476	444	459	461	481	489	452	461	449	499	5755
day Maximum	19.3	19.2	18.7	17.2	18.8	18.3	17.7	17.9	17.9	16.9	17.0	18.8	19.3
day average	17.4	17.0	16.2	15.1	15.0	15.9	16.0	16.1	15.5	15.1	15.3	16.6	15.9
day minimum	15.1	15.1	15.1	14.8	14.8	14.8	14.9	15.1	14.6	14.9	14.9	14.9	14.6

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
Egypt - Cairo 29.953, 31.153

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Export													
month Maximum	931	926	1082	898	940	914	932	947	888	1014	908	883	11100
month average	880	876	1038	874	899	872	909	919	864	979	873	844	10827
month minimum	802	831	995	846	856	836	883	891	839	922	812	794	10681
day Maximum	42.8	46.0	48.1	44.6	43.7	47.0	47.0	43.6	42.7	49.0	41.9	40.6	49.0
day average	28.4	31.1	33.5	29.1	29.0	29.1	29.3	29.7	28.8	31.6	29.1	27.2	29.6
day minimum	4.9	10.2	11.3	0.0	0.0	13.6	14.8	12.4	11.0	9.7	11.5	8.4	0.0
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	931	926	1082	898	940	914	932	947	888	1014	908	883	11100
month average	880	876	1038	874	899	872	909	919	864	979	873	844	10827
month minimum	802	831	995	846	856	836	883	891	839	922	812	794	10681
day Maximum	42.8	46.0	48.1	44.6	43.7	47.0	47.0	43.6	42.7	49.0	41.9	40.6	49.0
day average	28.4	31.1	33.5	29.1	29.0	29.1	29.3	29.7	28.8	31.6	29.1	27.2	29.6
day minimum	4.9	10.2	11.3	0.0	0.0	13.6	14.8	12.4	11.0	9.7	11.5	8.4	0.0

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
Egypt - Cairo 29.953, 31.153

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Export total													
month Maximum	6544	7454	9766	10389	11318	11009	11285	10996	9685	9115	6931	5923	107359
month average	6053	6927	9255	9903	10664	10744	11146	10810	9552	8652	6574	5616	105895
month minimum	5232	6465	8801	9238	9693	10361	11028	10596	9257	8059	6109	5023	104373
day Maximum	320.1	381.8	437.2	466.7	467.6	478.7	470.3	461.0	434.7	425.1	347.5	279.2	478.7
day average	195.3	245.6	298.6	330.1	344.0	358.1	359.5	348.7	318.4	279.1	219.1	181.1	290.0
day minimum	25.6	85.1	81.0	0.0	0.0	211.3	249.1	114.4	91.8	68.6	95.9	70.1	0.0
Export during high price hours													
month Maximum	3768	3369	3171	2831	2762	2566	2703	2792	2821	3140	3305	3767	36789
month average	3514	3049	3055	2740	2657	2442	2579	2725	2778	2909	3113	3448	35009
month minimum	3320	2942	2952	2648	2555	2382	2548	2685	2747	2833	2978	3334	34511
day Maximum	154.4	157.9	142.9	142.7	145.0	150.7	150.9	128.6	132.4	142.3	144.8	152.6	157.9
day average	113.4	108.1	98.5	91.3	85.7	81.4	83.2	87.9	92.6	93.8	103.8	111.2	95.9
day minimum	25.6	81.0	81.0	0.0	0.0	75.1	75.9	77.6	85.4	61.0	86.3	70.1	0.0
Export during medium price hours													
month Maximum	2626	3118	4262	4665	5403	5345	5447	5360	4439	4005	3092	2461	47320
month average	2259	2790	4000	4369	4844	5059	5282	4963	4128	3790	2836	2144	46464
month minimum	1682	2445	3667	4017	4359	4790	5158	4853	3999	3356	2493	1584	45567
day Maximum	172.8	206.4	243.4	269.8	276.6	274.1	278.6	273.1	238.1	248.0	194.0	162.4	278.6
day average	72.9	98.9	129.0	145.6	156.3	168.6	170.4	160.1	137.6	122.3	94.5	69.1	127.2
day minimum	0.0	0.0	0.0	0.0	0.0	43.9	70.6	27.0	0.8	0.0	0.0	0.0	0.0
Export during low price hours													
month Maximum	428	1363	2468	3112	3429	3400	3349	3257	2761	2278	795	71	25491
month average	279	1089	2200	2793	3163	3242	3284	3121	2646	1953	625	24	24421
month minimum	189	724	1905	2350	2716	2973	3018	2752	2467	1587	347	3	22472
day Maximum	52.6	81.0	108.0	121.9	132.4	134.7	117.9	108.0	108.0	95.3	65.6	16.8	134.7
day average	9.0	38.6	71.0	93.1	102.0	108.1	105.9	100.7	88.2	63.0	20.8	0.8	66.9
day minimum	0.0	0.0	0.0	0.0	0.0	0.0	43.5	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
Egypt - Cairo 29.953, 31.153

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Heating													
month Maximum	84	67	58	17	0	0	0	0	0	0	33	67	266
month average	69	52	33	8	0	0	0	0	0	0	13	52	226
month minimum	52	33	8	0	0	0	0	0	0	0	2	35	156
day Maximum	3.9	3.8	3.4	2.2	0.3	0.0	0.0	0.0	0.0	0.0	2.0	3.6	3.9
day average	2.2	1.9	1.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.7	0.6
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
Cooling													
month Maximum	0.00	0.00	0.00	0.00	20.69	52.65	56.59	62.02	46.14	16.16	0.27	0.00	205.32
month average	0.00	0.00	0.00	0.00	6.53	32.27	44.08	46.45	27.37	5.40	0.01	0.00	162.11
month minimum	0.00	0.00	0.00	0.00	0.00	17.44	27.74	36.30	13.40	0.00	0.00	0.00	118.40
day Maximum	0.00	0.00	0.00	0.00	3.99	3.48	3.13	3.31	3.27	1.98	0.25	0.00	3.99
day average	0.00	0.00	0.00	0.00	0.21	1.08	1.42	1.50	0.91	0.17	0.00	0.00	0.44
day minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.52	0.00	0.00	0.00	0.00	0.00
DHW													
month Maximum	39	35	36	25	25	24	19	19	18	27	28	31	323
month average	38	33	35	24	25	24	19	19	18	27	27	30	320
month minimum	36	32	33	24	24	24	19	19	18	27	27	29	315
day Maximum	1.4	1.4	1.3	0.9	0.8	0.8	0.6	0.6	0.6	0.9	1.0	1.2	1.4
day average	1.2	1.2	1.1	0.8	0.8	0.8	0.6	0.6	0.6	0.9	0.9	1.0	0.9
day minimum	1.1	1.1	1.1	0.8	0.8	0.8	0.6	0.6	0.6	0.9	0.9	0.9	0.6
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

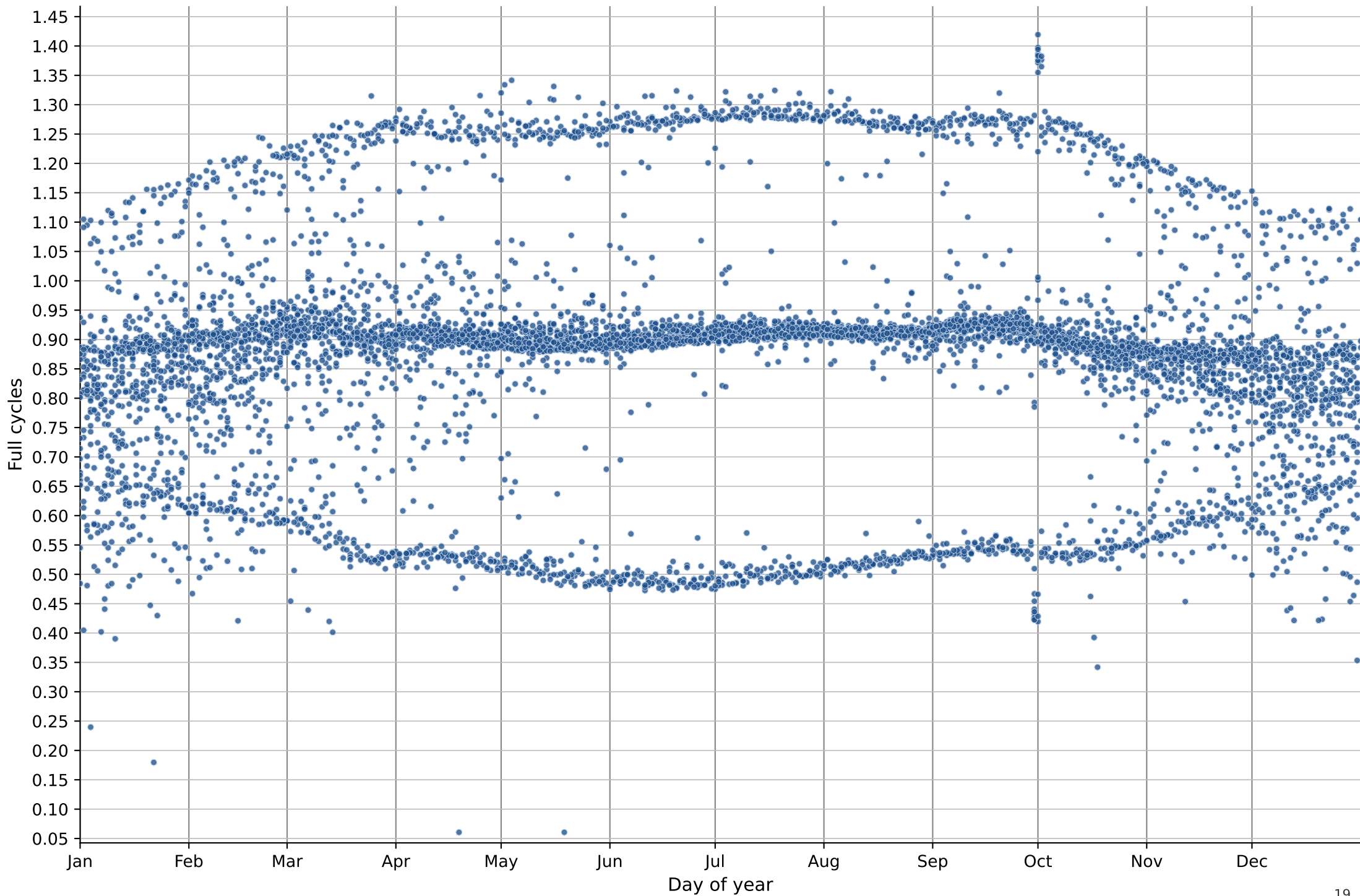
Heating, cooling and DHW are electricity. Direct electric is the part the heat pump could not cover.

Battery
Egypt - Cairo 29.953, 31.153

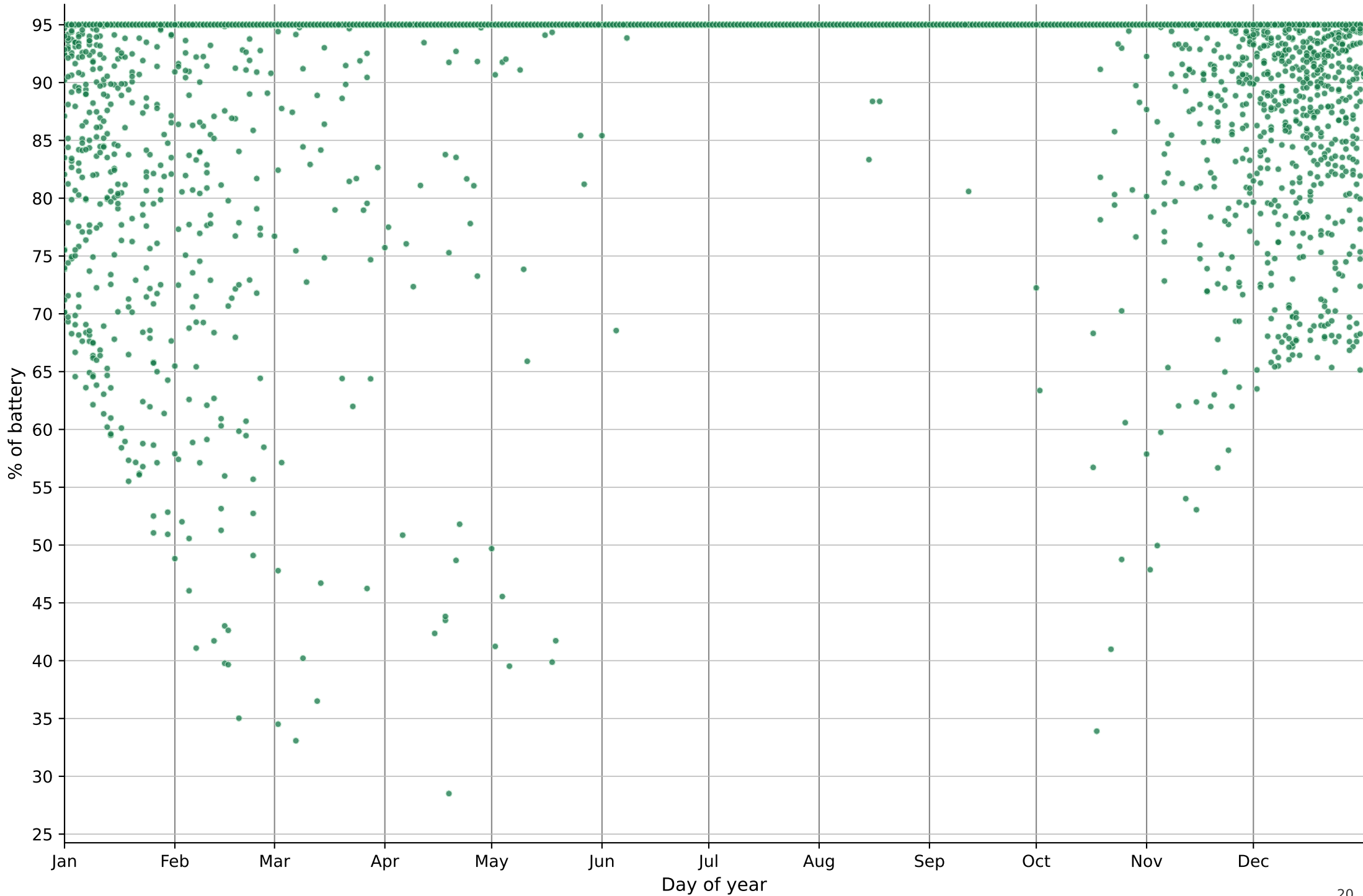
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Wasted													
month Maximum	4	254	1221	2267	2843	2985	2658	2140	1413	542	33	0	15354
month average	0	184	1092	1885	2441	2749	2532	1948	1277	366	16	0	14492
month minimum	0	34	967	1623	2005	2455	2386	1832	1087	188	0	0	13631
day Maximum	3.4	37.7	87.6	116.1	114.9	116.4	110.7	97.0	69.9	39.7	9.6	0.0	116.4
day average	0.0	6.5	35.2	62.8	78.7	91.6	81.7	62.9	42.6	11.8	0.5	0.0	39.7
day minimum	0.0	0.0	0.0	0.0	0.0	0.0	17.9	0.0	0.0	0.0	0.0	0.0	0.0
Full cycles													
month Maximum	26.49	25.88	28.46	27.47	28.35	27.28	28.58	28.57	27.57	28.11	26.30	25.91	322.70
month average	25.08	24.34	27.80	26.81	27.57	26.94	28.08	28.17	27.13	27.68	25.49	24.75	319.85
month minimum	22.04	22.98	26.88	25.62	26.41	26.28	27.67	27.74	26.85	26.01	24.10	22.54	316.51
day Maximum	1.16	1.24	1.31	1.32	1.34	1.32	1.32	1.32	1.32	1.42	1.20	1.14	1.42
day average	0.81	0.86	0.90	0.89	0.89	0.90	0.91	0.91	0.90	0.89	0.85	0.80	0.88
day minimum	0.18	0.42	0.40	0.06	0.06	0.47	0.47	0.50	0.42	0.34	0.45	0.35	0.06
Charge C													
month Maximum	0.19	0.22	0.24	0.25	0.24	0.23	0.23	0.23	0.22	0.21	0.19	0.16	2.55
month average	0.18	0.21	0.23	0.24	0.23	0.23	0.22	0.22	0.22	0.20	0.18	0.15	2.53
month minimum	0.18	0.21	0.22	0.23	0.23	0.22	0.22	0.22	0.21	0.20	0.17	0.15	2.50
day Maximum	0.19	0.22	0.24	0.25	0.24	0.23	0.23	0.23	0.22	0.21	0.19	0.16	0.25
day average	0.16	0.18	0.21	0.22	0.22	0.22	0.22	0.21	0.21	0.19	0.16	0.14	0.19
day minimum	0.04	0.04	0.07	0.07	0.08	0.17	0.20	0.19	0.14	0.03	0.04	0.06	0.03
Discharge C													
month Maximum	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	1.39
month average	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	1.39
month minimum	0.12	0.12	0.12	0.11	0.11	0.12	0.12	0.12	0.12	0.11	0.11	0.12	1.39
day Maximum	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
day average	0.11	0.12	0.12	0.11	0.11	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11
day minimum	0.11	0.11	0.11	0.00	0.00	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.00

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)
Egypt - Cairo 29.953, 31.153



Battery max charge state per day (257.2 kWh = 100 %)
Egypt - Cairo 29.953, 31.153



Battery min charge state per day (257.2 kWh = 100 %)
Egypt - Cairo 29.953, 31.153

