



2024-06-22 15:30:08.427329 INFO pred\_bat: Low Import rate found rates in range 12.6 to 32.13

2024-06-22 15:30:08.474799 INFO pred\_bat: Todays energy import 0.1 kWh export 12.5 kWh cost -137.27 p import 50.23 p export -187.5 p carbon 0.0 kg

2024-06-22 15:30:08.476211 INFO pred\_bat: Using solcast from inside HA

2024-06-22 15:30:08.477668 INFO pred\_bat: PV Data for pv\_forecast\_today total 30.46 kWh

2024-06-22 15:30:08.479141 INFO pred\_bat: PV Data for pv\_forecast\_tomorrow total 33.19 kWh

2024-06-22 15:30:08.480520 INFO pred\_bat: PV Data for pv\_forecast\_d3 total 35.95 kWh

2024-06-22 15:30:08.481888 INFO pred\_bat: PV Data for pv\_forecast\_d4 total 43.13 kWh

2024-06-22 15:30:08.487054 INFO pred\_bat: PV Forecast for today is 30.46 (11.8 10% 46.85 90%) kWh and left today is 9.09 (4.27 10% 11.34 90%) kWh

2024-06-22 15:30:08.499097 INFO pred\_bat: PV Forecast for day tomorrow is 33.19 (12.15 10% 46.44 90%) kWh

2024-06-22 15:30:08.510857 INFO pred\_bat: PV Forecast for day d2 is 35.95 (15.43 10% 45.19 90%) kWh

2024-06-22 15:30:08.522894 INFO pred\_bat: PV Forecast for day d3 is 43.13 (13.07 10% 45.06 90%) kWh

2024-06-22 15:30:08.552129 INFO pred\_bat: Historical data totals for days [7] are [11.55] - min 11.55

2024-06-22 15:30:08.553626 INFO pred\_bat: Historical days now [7] weight [1]

2024-06-22 15:30:08.564441 INFO pred\_bat: Today's load divergence 129.53 % in-day adjustment 128.05 % damping 0.95x, Predicted so far 4.46 kWh with 1.85 kWh car excluded and 0.17 kWh import ignored and 0 forecast extra, Actual so far 7.95 kWh with 0.62 kWh car excluded and 0.0 kWh import ignored

2024-06-22 15:30:08.619084 INFO pred\_bat: Inverter 0: Type SX4 Solax Gen4 (Modbus Power Control)

2024-06-22 15:30:08.619865 INFO pred\_bat: Warn: Inverter 0: Using inverter type SX4 - not all features are available

2024-06-22 15:30:08.621132 INFO pred\_bat: Invertor time 2024-06-22 15:30:05+01:00 AppDaemon time 2024-06-22 15:30:08.620057+01:00 difference -0.07 minutes

2024-06-22 15:30:08.622418 INFO pred\_bat: Reserve min: 10.0% Battery\_min:0.0%

2024-06-22 15:30:08.623719 INFO pred\_bat: Inverter 0 with soc\_max 17.4 kWh nominal\_capacity 17.4 kWh battery\_rate\_raw 8000.0 w charge\_rate 8.0 kW discharge\_rate 8.0 kW battery\_rate\_min 0.0 w ac\_limit 8.0 kW export\_limit 8.0 kW reserve 10.0 % current\_reserve 10.0 %

2024-06-22 15:30:08.624442 INFO pred\_bat: Inverter 0 scheduled\_charge\_enable off scheduled\_discharge\_enable off

2024-06-22 15:30:08.625263 INFO pred\_bat: Inverter 0 SOC: 17.05 kW 98 % Current charge rate 2600.0 w Current discharge rate 2600.0 w Current power 0.0 w Current voltage 360.5

2024-06-22 15:30:10.642712 INFO pred\_bat: Switch sensor.predbat\_SX4\_0\_scheduled\_charge\_enable is now on

2024-06-22 15:30:10.643752 INFO pred\_bat: Inverter 0 Wrote scheduled\_charge\_enable to True successfully and got on

2024-06-22 15:30:10.644633 INFO pred\_bat: Inverter 0 scheduled\_charge\_enable

set to True

2024-06-22 15:30:10.645569 INFO pred\_bat: Inverter 0 scheduled charge enable is True

2024-06-22 15:30:10.646569 INFO pred\_bat: Inverter 0 charge windows currently [ {'start': 900, 'end': 960, 'average': 0}, { 'start': 2340, 'end': 2400, 'average': 0}, { 'start': 3780, 'end': 3840, 'average': 0} ]

2024-06-22 15:30:10.647874 INFO pred\_bat: Inverter 0 Charge settings: 06-22 15:00:00-06-22 16:00:00 limit 100.0 power 2.6 kW

2024-06-22 15:30:10.649059 INFO pred\_bat: Inverter 0 Wrote scheduled\_discharge\_enable to False successfully and got off

2024-06-22 15:30:10.650074 INFO pred\_bat: Inverter 0 sensor.predbat\_SX4\_0\_scheduled\_discharge\_enable set to False

2024-06-22 15:30:10.651135 INFO pred\_bat: Inverter 0 scheduled discharge enable is False

2024-06-22 15:30:10.652197 INFO pred\_bat: Inverter 0 discharge windows currently [ {'start': 0, 'end': 0, 'average': 0}, { 'start': 1440, 'end': 1440, 'average': 0} ]

2024-06-22 15:30:10.652815 INFO pred\_bat: Note: Inverter does not support discharge freeze - disabled

2024-06-22 15:30:10.653431 INFO pred\_bat: Note: Inverter does not support charge freeze - disabled

2024-06-22 15:30:10.654041 INFO pred\_bat: Note: Inverter does not support reserve - disabling reserve functions

2024-06-22 15:30:10.654827 INFO pred\_bat: Found 1 inverters totals: min reserve 1.74 current reserve 1.74 soc\_max 17.4 soc 17.05 charge rate 2.6 kW discharge rate 2.6 kW battery\_rate\_min 0.0 w ac limit 8.0 export limit 8.0 kW loss charge 5 % loss discharge 5 % inverter loss 2 %

2024-06-22 15:30:10.722517 INFO pred\_bat: Base charge window [ 22-06 15:00:00 - 22-06 16:00:00 @ 0p 100%, 23-06 15:00:00 - 23-06 16:00:00 @ 0p 100%, 24-06 15:00:00 - 24-06 16:00:00 @ 0p 100% ]

2024-06-22 15:30:10.723447 INFO pred\_bat: Base discharge window [ 22-06 00:00:00 - 22-06 00:00:00 @ 0p 100.0%, 23-06 00:00:00 - 23-06 00:00:00 @ 0p 100.0% ]

2024-06-22 15:30:10.724070 INFO pred\_bat: Plan was last updated on 2024-06-22 15:20:00+01:00 and is now 10.0 minutes old

2024-06-22 15:30:10.724921 INFO pred\_bat: Best charge window [ 22-06 15:00:00 - 22-06 16:00:00 @ 12.6p 100%, 22-06 22:30:00 - 23-06 07:30:00 @ 14.7p 100%, 23-06 13:00:00 - 23-06 16:00:00 @ 14.88p 100%, 23-06 22:30:00 - 24-06 06:30:00 @ 14.7p 100%, 24-06 07:30:00 - 24-06 08:00:00 @ 17.24p 100%, 24-06 13:30:00 - 24-06 14:30:00 @ 13.57p 100%, 24-06 15:00:00 - 24-06 15:30:00 @ 12.6p 100% ]

2024-06-22 15:30:10.725622 INFO pred\_bat: Best discharge window [ ]

2024-06-22 15:30:10.726967 INFO pred\_bat: PV Forecast 71.7 kWh and 10% Forecast 30.5 kWh pv cloud factor 0.3

2024-06-22 15:30:10.729012 INFO pred\_bat: Load divergence over 8.0 hours mean 471.29 W, min 12.0 W, max 5580.0 W, std dev 681.89 W, divergence 72.34%

2024-06-22 15:30:10.743619 INFO pred\_bat: Creating pool of 2 processes to match your CPU count

2024-06-22 15:30:10.793368 INFO pred\_bat: predict base end\_record 06-24 15:10:00 final soc 17.4 kWh metric -632.18 p metric\_keep 0 min\_soc 12.92 @ 06-24 07:50:00 kWh load 36.82 pv 92.44



31.37, 31.92, 32.68, 33.62, 34.7, 35.89, 37.22, 38.68, 40.35, 42.16,  
44.05, 45.94, 47.75, 49.49, 51.2, 52.87, 54.49, 56.03, 57.47, 58.8,  
59.99, 61.04, 61.92, 62.61, 63.13, 63.5, 63.71, 63.82, 63.87, 63.88,  
63.88, 63.88, 63.88, 63.88, 63.88, 63.88, 63.88, 63.88, 63.88,  
63.88, 63.88, 63.88, 63.88, 63.88, 63.89, 63.93, 64.02, 64.18,  
64.53, 65.13, 65.99, 67.15, 68.56, 70.24, 72.13, 74.2, 76.37, 78.54,  
80.66, 82.74, 84.79, 86.76, 88.63, 90.38, 91.96]

2024-06-22 15:30:10.807258 INFO pred\_bat: IMPORT: [ 0.1, 0.12, 0.12,  
0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28,  
0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28,  
0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28,  
0.28, 0.28, 0.28, 0.28, 0.28, 0.3, 0.3, 0.3, 0.3, 0.35, 0.35,  
0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35,  
0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35,  
0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35, 0.5, 0.5, 0.5, 0.5,  
0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5]

2024-06-22 15:30:10.809287 INFO pred\_bat: EXPORT: [ 12.5, 13.19, 14.24,  
14.6, 15.64, 16.44, 16.84, 17.27, 17.47, 17.5, 17.5, 17.5, 17.5,  
17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5,  
17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5,  
17.5, 17.5, 17.5, 18.17, 19.35, 20.66, 21.98, 23.55, 25.18, 26.6,  
28.02, 29.04, 30.18, 31.21, 31.79, 32.47, 33.07, 33.57, 34.38,  
34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.38,  
34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.38,  
34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.38,  
34.38, 34.38, 34.38, 34.38, 34.38, 34.38, 34.94, 36.85, 38.88,  
40.91, 42.77, 44.71, 46.49, 48.07, 49.53, 50.71, 52.12]

2024-06-22 15:30:10.811358 INFO pred\_bat: METRIC: [-137.27, -147.3, -163.12,  
-164.02, -179.66, -191.61, -197.59, -204.03, -207.1, -207.48, -207.48, -207.48,  
-207.48, -207.48, -207.48, -207.48, -207.48, -207.48, -158.82, -158.82, -158.82,  
-158.82, -158.82, -158.82, -158.82, -158.82, -158.82, -158.82, -158.82, -158.82,  
-158.82, -158.82, -158.82, -158.82, -158.82, -158.82, -168.92, -186.64, -206.25,  
-226.09, -249.65, -274.08, -295.41, -316.69, -331.97, -349.11, -364.49, -373.14,  
-383.12, -392.06, -399.67, -411.8, -410.66, -410.66, -410.66, -410.66, -410.66,  
-410.66, -410.66, -410.66, -410.66, -410.66, -410.66, -410.66, -410.66, -410.66,  
-362.0, -362.0, -362.0, -362.0, -362.0, -362.0, -362.0, -362.0, -362.0,  
-362.0, -362.0, -362.0, -362.0, -362.0, -362.0, -362.0, -359.32, -359.32, -359.32,  
-359.32, -367.67, -396.29, -426.78, -457.26, -485.12, -514.28, -540.94, -564.65,  
-586.54, -604.18, -625.3]

2024-06-22 15:30:11.096333 INFO pred\_bat: Battery has 48.0 hours left - now at 17.05

2024-06-22 15:30:11.141649 INFO pred\_bat: predict base10 end\_record 06-24  
15:10:00 final soc 17.29 kWh metric 13.57 p metric\_keep 0 min\_soc 8.58 @ 06-24  
08:05:00 kWh load 39.65 pv 51.82

2024-06-22 15:30:11.143794 INFO pred\_bat: [ 15:30, 16:00, 16:30,  
17:00, 17:30, 18:00, 18:30, 19:00, 19:30, 20:00, 20:30, 21:00,  
21:30, 22:00, 22:30, 23:00, 23:30, 00:00, 00:30, 01:00, 01:30,  
02:00, 02:30, 03:00, 03:30, 04:00, 04:30, 05:00, 05:30, 06:00,  
06:30, 07:00, 07:30, 08:00, 08:30, 09:00, 09:30, 10:00, 10:30,

11:00, 11:30, 12:00, 12:30, 13:00, 13:30, 14:00, 14:30, 15:00,  
15:30, 16:00, 16:30, 17:00, 17:30, 18:00, 18:30, 19:00, 19:30,  
20:00, 20:30, 21:00, 21:30, 22:00, 22:30, 23:00, 23:30, 00:00,  
00:30, 01:00, 01:30, 02:00, 02:30, 03:00, 03:30, 04:00, 04:30,  
05:00, 05:30, 06:00, 06:30, 07:00, 07:30, 08:00, 08:30, 09:00,  
09:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 13:00, 13:30,  
14:00, 14:30, 15:00]

2024-06-22 15:30:11.145788 INFO pred\_bat: SOC:[ 17.05, 17.4, 17.29,  
16.91, 17.23, 17.34, 17.31, 17.4, 17.4, 17.37, 17.25, 17.04, 16.83,  
16.69, 16.44, 16.2, 16.02, 15.8, 15.59, 15.46, 15.3, 15.09, 14.93,  
14.77, 14.65, 14.49, 14.31, 14.08, 13.99, 13.95, 13.94, 13.99, 14.1,  
14.21, 14.34, 14.41, 14.6, 14.88, 15.21, 15.42, 15.86, 16.34, 16.59,  
16.88, 16.73, 16.71, 16.59, 15.79, 17.4, 17.4, 16.93, 16.87, 15.44,  
14.34, 13.79, 13.85, 13.79, 13.54, 13.41, 12.76, 12.59, 12.41,  
12.26, 12.11, 11.9, 11.52, 11.34, 11.02, 10.86, 10.72, 10.61, 10.4,  
10.25, 10.08, 9.98, 9.86, 9.74, 9.69, 9.72, 9.87, 10.21, 8.67,  
8.83, 9.23, 9.94, 10.74, 11.62, 12.54, 13.44, 14.16, 15.01, 15.68,  
16.13, 16.5, 16.54, 16.92]

2024-06-22 15:30:11.147617 INFO pred\_bat: BAT:[ g<bf+, g~be-, g~be+,  
g~be+, g~be+, g~be-, g~be+, g~be-, g~be-, g~be-, g~be-, g~be-,  
g~be-, g~be-, g~be~, g~be~, g~be~, g~be-, g~be~, g~be~, g~be~,  
g~be~, g~be~, g~be~, g~be~, g~be~, g~be+, g~be+, g~be+, g~be+,  
g~be+, g~be+, g~be+, g~be+, g~be-, g~be+, g~be+, g~be+, g~be-,  
g~be+, g~be+, g~be-, g~be+, g~be+, g~be+, g~be+, g~be+, g<bf+,  
g>bf+, g>be~, g~be+, g~be-, g~be+, g~be+, g~be-, g~be-, g~be-,  
g~be+, g~be-, g~be+, g~be-, g~be~, g~be-, g~be~, g~be-, g~be-,  
g~be-, g~be~, g~be-, g~be-, g~be-, g~be~, g~be~, g~be-, g~be-,  
g~be-, g~be-, g~be+, g~be+, g~be+, g~be-, g~be+, g~be+, g~be+,  
g~be+, g~be+, g~be+, g~be+, g~be+, g~be+, g~be+, g~be+, g~be+,  
g~be+, g~be+, g<bf+]

2024-06-22 15:30:11.149545 INFO pred\_bat: LOAD:[ 8.52, 9.22, 9.7,  
10.93, 11.13, 11.41, 11.87, 12.05, 12.25, 12.44, 12.63, 12.87,  
13.08, 13.21, 13.43, 13.66, 13.83, 14.03, 14.23, 14.35, 14.5, 14.69,  
14.84, 14.99, 15.1, 15.25, 15.42, 15.64, 15.76, 15.87, 16.02, 16.16,  
16.28, 16.47, 16.66, 16.92, 17.09, 17.22, 17.36, 17.71, 17.92,  
18.18, 18.65, 19.04, 19.79, 20.4, 21.07, 22.37, 23.08, 23.99, 24.8,  
25.23, 27.13, 28.42, 29.16, 29.27, 29.46, 29.81, 29.98, 30.63,  
30.78, 30.95, 31.09, 31.23, 31.43, 31.78, 31.95, 32.25, 32.4, 32.53,  
32.63, 32.82, 32.97, 33.13, 33.22, 33.33, 33.47, 33.6, 33.72, 33.84,  
33.87, 36.2, 36.61, 36.91, 37.03, 37.17, 37.29, 37.39, 37.5, 37.75,  
37.84, 38.09, 38.51, 38.9, 39.51, 39.65]

2024-06-22 15:30:11.151516 INFO pred\_bat: PV:[ 21.6, 22.2, 22.78,  
23.35, 23.89, 24.4, 24.85, 25.25, 25.56, 25.75, 25.82, 25.87, 25.88,  
25.88, 25.88, 25.88, 25.88, 25.88, 25.88, 25.88, 25.88, 25.88,  
25.88, 25.88, 25.88, 25.88, 25.88, 25.88, 25.92, 26.0, 26.14, 26.34,  
26.59, 26.89, 27.23, 27.58, 27.95, 28.38, 28.88, 29.46, 30.14, 30.9,  
31.66, 32.35, 33.0, 33.62, 34.21, 34.78, 35.31, 35.79, 36.23, 36.63,  
36.97, 37.25, 37.48, 37.66, 37.81, 37.92, 37.99, 38.02, 38.02,  
38.02, 38.02, 38.02, 38.02, 38.02, 38.02, 38.02, 38.02, 38.02,  
38.02, 38.02, 38.02, 38.02, 38.02, 38.02, 38.03, 38.06, 38.14, 38.31,







4.52, 4.52, 4.52, 4.52, 4.52, 4.52, 4.52, 4.52, 4.52, 4.52,  
4.52, 4.8, 4.98, 5.31, 6.12, 6.43, 6.94, 6.94, 6.94, 7.18,  
7.18, 7.18, 7.18, 7.18, 7.18, 7.18, 7.18, 7.18, 7.18, 7.18,  
11.39, 13.04, 13.39, 13.55, 13.85, 14.0, 14.13, 14.23, 14.43, 14.57,  
14.73, 14.82, 14.93, 15.05, 15.12, 15.19, 15.19, 15.19, 17.09,  
17.09, 17.09, 17.09, 17.09, 17.09, 17.09, 17.09, 17.09, 17.09,  
17.09, 17.09, 17.2, 17.32, 17.32]

2024-06-22 15:30:11.280673 INFO pred\_bat: EXPORT: [ 12.5, 12.62, 12.8,  
12.8, 12.8, 12.91, 12.91, 13.02, 13.13, 13.14, 13.14, 13.14, 13.14,  
13.14, 13.14, 13.14, 13.14, 13.14, 13.14, 13.14, 13.14, 13.14,  
13.14, 13.14, 13.14, 13.14, 13.14, 13.14, 13.15, 13.19, 13.23,  
13.32, 13.45, 13.57, 13.7, 13.81, 13.97, 14.25, 14.6, 14.82, 15.27,  
15.76, 16.03, 16.31, 16.47, 16.65, 16.89, 16.96, 17.07, 17.15,  
17.19, 17.19, 17.19, 17.19, 17.19, 17.19, 17.19, 17.19, 17.19,  
17.19, 17.19, 17.19, 17.19, 17.19, 17.19, 17.19, 17.19, 17.19,  
17.19, 17.19, 17.19, 17.19, 17.19, 17.19, 17.19, 17.19, 17.2, 17.22,  
17.33, 17.48, 17.83, 17.87, 18.03, 18.44, 19.17, 20.0, 20.91, 21.86,  
22.79, 23.54, 24.41, 25.1, 25.56, 26.06, 26.24, 26.64]

2024-06-22 15:30:11.282757 INFO pred\_bat: METRIC: [-137.27, -131.52,  
-134.25, -124.67, -124.67, -126.22, -126.22, -127.94, -129.62, -129.73, -129.73,  
-129.73, -129.73, -129.73, -129.73, -111.33, -108.8, -105.89, -54.05, -52.18,  
-49.91, -46.72, -44.28, -42.15, -40.38, -38.24, -35.57, -32.28, -30.9,  
-30.4, -30.18, -31.05, -32.84, -34.61, -36.57, -38.19, -40.58, -44.84,  
-50.0, -53.31, -60.09, -67.44, -71.46, -75.78, -74.0, -74.22, -73.7, -64.55,  
-62.29, -57.08, -57.59, -57.59, -51.13, -51.13, -51.13, -51.13, -51.13,  
-51.13, -51.13, -51.13, -51.13, -51.13, 10.83, 35.01, 40.15,  
91.42, 96.0, 98.34, 100.51, 102.09, 104.94, 107.14, 109.42, 110.89,  
112.5, 114.33, 115.15, 114.55, 112.28, 107.11, 139.34, 136.82, 130.68,  
119.71, 107.32, 93.67, 79.44, 65.49, 54.3, 41.17, 30.84, 23.95,  
17.87, 16.76, 10.83]

2024-06-22 15:30:11.403524 INFO pred\_bat: predict best end\_record 06-24  
15:10:00 final soc 17.4 kWh metric -637.13 p metric\_keep 0 min\_soc 15.65 @ 06-23  
22:25:00 kWh load 36.82 pv 92.44

2024-06-22 15:30:11.405675 INFO pred\_bat: [ 15:30, 16:00, 16:30,  
17:00, 17:30, 18:00, 18:30, 19:00, 19:30, 20:00, 20:30, 21:00,  
21:30, 22:00, 22:30, 23:00, 23:30, 00:00, 00:30, 01:00, 01:30,  
02:00, 02:30, 03:00, 03:30, 04:00, 04:30, 05:00, 05:30, 06:00,  
06:30, 07:00, 07:30, 08:00, 08:30, 09:00, 09:30, 10:00, 10:30,  
11:00, 11:30, 12:00, 12:30, 13:00, 13:30, 14:00, 14:30, 15:00,  
15:30, 16:00, 16:30, 17:00, 17:30, 18:00, 18:30, 19:00, 19:30,  
20:00, 20:30, 21:00, 21:30, 22:00, 22:30, 23:00, 23:30, 00:00,  
00:30, 01:00, 01:30, 02:00, 02:30, 03:00, 03:30, 04:00, 04:30,  
05:00, 05:30, 06:00, 06:30, 07:00, 07:30, 08:00, 08:30, 09:00,  
09:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 13:00, 13:30,  
14:00, 14:30, 15:00]

2024-06-22 15:30:11.407667 INFO pred\_bat: SOC: [ 17.05, 17.4, 17.4,  
17.4, 17.4, 17.4, 17.4, 17.4, 17.39, 17.28, 17.1, 16.91,  
16.78, 16.56, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,  
17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,  
17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,

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16.34, 16.29, 16.68, 16.85, 16.75, 16.68, 16.09, 15.96, 15.79,  
15.65, 17.39, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,  
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2024-06-22 15:30:11.409501 INFO pred\_bat: BAT: [ g<bf+, g>be~, g>be~,  
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g~be-, g~be-, g<bf+, g<bf+, g<be-, g<be-, g<be-, g<be-, g<be-,  
g<be-, g<be-, g<be-, g<be-, g<be-, g>be~, g>be~, g>be~, g>be~,  
g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~,  
g>be~, g>be~, g>be+, g~be-, g~be+, g~be+, g~be+, g~be-, g~be-,  
g~be-, g~be-, g~be-, g~be-, g~be-, g<bf+, g<bf+, g<be-, g<be-,  
g<be-, g<be-, g<be-, g<be-, g<be-, g<be-, g<be-, g<be-, g<be-,  
g<be-, g<be-, g>be~, g>be~, g>be~, g<be-, g>be~, g>be~, g>be~,  
g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~,  
g>be~, g>be~, g>be~]

2024-06-22 15:30:11.411538 INFO pred\_bat: LOAD: [ 8.52, 9.13, 9.57,  
10.71, 10.89, 11.13, 11.56, 11.72, 11.9, 12.08, 12.25, 12.47, 12.65,  
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15.57, 15.74, 15.91, 16.15, 16.31, 16.42, 16.55, 16.86, 17.06,  
17.29, 17.72, 18.07, 18.77, 19.29, 19.9, 21.06, 21.75, 22.56, 23.32,  
23.68, 25.43, 26.57, 27.27, 27.38, 27.56, 27.85, 28.02, 28.61,  
28.75, 28.91, 29.04, 29.16, 29.35, 29.64, 29.82, 30.08, 30.23,  
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34.86, 35.08, 35.17, 35.4, 35.76, 36.13, 36.66, 36.81]

2024-06-22 15:30:11.413474 INFO pred\_bat: PV: [ 21.6, 23.27, 24.8,  
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31.37, 31.92, 32.68, 33.62, 34.7, 35.89, 37.22, 38.68, 40.35, 42.16,  
44.05, 45.94, 47.75, 49.49, 51.2, 52.87, 54.49, 56.03, 57.47, 58.8,  
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80.66, 82.74, 84.79, 86.76, 88.63, 90.38, 91.96]

2024-06-22 15:30:11.415483 INFO pred\_bat: IMPORT: [ 0.1, 0.12, 0.12,  
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06-22 20:30:00 @ 15.0, 10: 06-22 20:30:00 - 06-22 21:00:00 @ 15.0, 11: 06-22  
21:00:00 - 06-22 21:30:00 @ 15.0, 12: 06-22 21:30:00 - 06-22 22:00:00 @ 15.0, 13:  
06-22 22:00:00 - 06-22 22:30:00 @ 15.0, 14: 06-22 22:30:00 - 06-22 23:00:00 @  
15.0, 15: 06-22 23:00:00 - 06-22 23:30:00 @ 15.0, 16: 06-22 23:30:00 - 06-23  
00:00:00 @ 15.0, 17: 06-23 00:00:00 - 06-23 00:30:00 @ 15.0, 18: 06-23 00:30:00 -  
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01:30:00 - 06-23 02:00:00 @ 15.0, 21: 06-23 02:00:00 - 06-23 02:30:00 @ 15.0, 22:  
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10:30:00 - 06-23 11:00:00 @ 15.0, 39: 06-23 11:00:00 - 06-23 11:30:00 @ 15.0, 40:  
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13:30:00 @ 15.0, 44: 06-23 13:30:00 - 06-23 14:00:00 @ 15.0, 45: 06-23 14:00:00 -  
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12:00:00 @ 15.0, 89: 06-24 12:00:00 - 06-24 12:30:00 @ 15.0, 90: 06-24 12:30:00 -  
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13:30:00 - 06-24 14:00:00 @ 15.0, 93: 06-24 14:00:00 - 06-24 14:30:00 @ 15.0, 94:  
06-24 14:30:00 - 06-24 15:00:00 @ 15.0, 95: 06-24 15:00:00 - 06-24 15:30:00 @  
15.0]

2024-06-22 15:30:11.968370 INFO pred\_bat: Import threshold used for optimisation

was 17.7p

2024-06-22 15:30:12.061971 INFO pred\_bat: Low import rate windows [0: 06-22 15:30:00 - 06-22 16:00:00 @ 12.6, 1: 06-22 16:00:00 - 06-22 16:30:00 @ 27.3, 2: 06-22 16:30:00 - 06-22 17:00:00 @ 28.66, 3: 06-22 17:00:00 - 06-22 17:30:00 @ 27.72, 4: 06-22 17:30:00 - 06-22 18:00:00 @ 32.13, 5: 06-22 19:00:00 - 06-22 19:30:00 @ 19.74, 6: 06-22 19:30:00 - 06-22 20:00:00 @ 19.74, 7: 06-22 20:00:00 - 06-22 20:30:00 @ 19.4, 8: 06-22 20:30:00 - 06-22 21:00:00 @ 18.69, 9: 06-22 21:00:00 - 06-22 21:30:00 @ 18.86, 10: 06-22 21:30:00 - 06-22 22:00:00 @ 17.91, 11: 06-22 22:00:00 - 06-22 22:30:00 @ 16.13, 12: 06-22 22:30:00 - 06-22 23:00:00 @ 14.7, 13: 06-22 23:00:00 - 06-22 23:30:00 @ 14.7, 14: 06-22 23:30:00 - 06-23 00:00:00 @ 14.7, 15: 06-23 00:00:00 - 06-23 00:30:00 @ 15.75, 16: 06-23 00:30:00 - 06-23 01:00:00 @ 15.12, 17: 06-23 01:00:00 - 06-23 01:30:00 @ 15.52, 18: 06-23 01:30:00 - 06-23 02:00:00 @ 16.76, 19: 06-23 02:00:00 - 06-23 02:30:00 @ 15.96, 20: 06-23 02:30:00 - 06-23 03:00:00 @ 14.7, 21: 06-23 03:00:00 - 06-23 03:30:00 @ 15.2, 22: 06-23 03:30:00 - 06-23 04:00:00 @ 14.38, 23: 06-23 04:00:00 - 06-23 04:30:00 @ 16.11, 24: 06-23 04:30:00 - 06-23 05:00:00 @ 15.23, 25: 06-23 05:00:00 - 06-23 05:30:00 @ 16.04, 26: 06-23 05:30:00 - 06-23 06:00:00 @ 16.8, 27: 06-23 06:00:00 - 06-23 06:30:00 @ 15.54, 28: 06-23 06:30:00 - 06-23 07:00:00 @ 14.7, 29: 06-23 07:00:00 - 06-23 07:30:00 @ 14.49, 30: 06-23 07:30:00 - 06-23 08:00:00 @ 17.24, 31: 06-23 08:00:00 - 06-23 08:30:00 @ 19.95, 32: 06-23 08:30:00 - 06-23 09:00:00 @ 19.95, 33: 06-23 09:00:00 - 06-23 09:30:00 @ 20.26, 34: 06-23 09:30:00 - 06-23 10:00:00 @ 18.67, 35: 06-23 10:00:00 - 06-23 10:30:00 @ 19.95, 36: 06-23 10:30:00 - 06-23 11:00:00 @ 19.32, 37: 06-23 11:00:00 - 06-23 11:30:00 @ 19.13, 38: 06-23 11:30:00 - 06-23 12:00:00 @ 18.88, 39: 06-23 12:00:00 - 06-23 12:30:00 @ 17.7, 40: 06-23 12:30:00 - 06-23 13:00:00 @ 16.59, 41: 06-23 13:00:00 - 06-23 13:30:00 @ 14.88, 42: 06-23 13:30:00 - 06-23 14:00:00 @ 13.57, 43: 06-23 14:00:00 - 06-23 14:30:00 @ 12.6, 44: 06-23 14:30:00 - 06-23 15:00:00 @ 12.6, 45: 06-23 15:00:00 - 06-23 15:30:00 @ 12.6, 46: 06-23 15:30:00 - 06-23 16:00:00 @ 12.6, 47: 06-23 16:00:00 - 06-23 16:30:00 @ 27.3, 48: 06-23 16:30:00 - 06-23 17:00:00 @ 28.66, 49: 06-23 17:00:00 - 06-23 17:30:00 @ 27.72, 50: 06-23 17:30:00 - 06-23 18:00:00 @ 32.13, 51: 06-23 19:00:00 - 06-23 19:30:00 @ 19.74, 52: 06-23 19:30:00 - 06-23 20:00:00 @ 19.74, 53: 06-23 20:00:00 - 06-23 20:30:00 @ 19.4, 54: 06-23 20:30:00 - 06-23 21:00:00 @ 18.69, 55: 06-23 21:00:00 - 06-23 21:30:00 @ 18.86, 56: 06-23 21:30:00 - 06-23 22:00:00 @ 17.91, 57: 06-23 22:00:00 - 06-23 22:30:00 @ 16.13, 58: 06-23 22:30:00 - 06-23 23:00:00 @ 14.7, 59: 06-23 23:00:00 - 06-23 23:30:00 @ 14.7, 60: 06-23 23:30:00 - 06-24 00:00:00 @ 14.7, 61: 06-24 00:00:00 - 06-24 00:30:00 @ 15.75, 62: 06-24 00:30:00 - 06-24 01:00:00 @ 15.12, 63: 06-24 01:00:00 - 06-24 01:30:00 @ 15.52, 64: 06-24 01:30:00 - 06-24 02:00:00 @ 16.76, 65: 06-24 02:00:00 - 06-24 02:30:00 @ 15.96, 66: 06-24 02:30:00 - 06-24 03:00:00 @ 14.7, 67: 06-24 03:00:00 - 06-24 03:30:00 @ 15.2, 68: 06-24 03:30:00 - 06-24 04:00:00 @ 14.38, 69: 06-24 04:00:00 - 06-24 04:30:00 @ 16.11, 70: 06-24 04:30:00 - 06-24 05:00:00 @ 15.23, 71: 06-24 05:00:00 - 06-24 05:30:00 @ 16.04, 72: 06-24 05:30:00 - 06-24 06:00:00 @ 16.8, 73: 06-24 06:00:00 - 06-24 06:30:00 @ 15.54, 74: 06-24 06:30:00 - 06-24 07:00:00 @ 14.7, 75: 06-24 07:00:00 - 06-24 07:30:00 @ 14.49, 76: 06-24 07:30:00 - 06-24 08:00:00 @ 17.24, 77: 06-24 08:00:00 - 06-24 08:30:00 @ 19.95, 78: 06-24 08:30:00 - 06-24 09:00:00 @ 19.95, 79: 06-24 09:00:00 - 06-24 09:30:00 @ 20.26, 80: 06-24 09:30:00 - 06-24 10:00:00 @ 18.67, 81: 06-24 10:00:00 - 06-24 10:30:00 @ 19.95, 82: 06-24 10:30:00 - 06-24 11:00:00 @ 19.32, 83: 06-24 11:00:00 - 06-24 11:30:00 @ 19.13, 84: 06-24 11:30:00 - 06-24 12:00:00 @ 18.88, 85: 06-24 12:00:00 - 06-24 12:30:00 @ 17.7, 86: 06-24 12:30:00 - 06-24

13:00:00 @ 16.59, 87: 06-24 13:00:00 - 06-24 13:30:00 @ 14.88, 88: 06-24 13:30:00 - 06-24 14:00:00 @ 13.57, 89: 06-24 14:00:00 - 06-24 14:30:00 @ 12.6, 90: 06-24 14:30:00 - 06-24 15:00:00 @ 12.6, 91: 06-24 15:00:00 - 06-24 15:30:00 @ 12.6]  
2024-06-22 15:30:12.073102 INFO pred\_bat: Include original charge start 06-22 15:00:00, keeping this instead of new start 06-22 15:00:00  
2024-06-22 15:30:12.073946 INFO pred\_bat: Charge window will be: 2024-06-22 15:00:00+01:00 - 2024-06-22 16:00:00+01:00 - current soc 98 target 100  
2024-06-22 15:30:12.074851 INFO pred\_bat: Inverter 0 current charge rate is 2600.0 and new target is 8000  
2024-06-22 15:30:12.075668 INFO pred\_bat: Inverter 0 current discharge rate is 2600.0 and new target is 0  
2024-06-22 15:30:12.076501 INFO pred\_bat: Configuring charge window now (now 06-22 15:30:00 target set\_window\_minutes 30 charge start time 06-22 15:00:00  
2024-06-22 15:30:12.077465 INFO pred\_bat: Adjust idle time, charge 15:00:00-16:00:00 discharge 00:00:00-00:00:00  
2024-06-22 15:30:12.078596 INFO pred\_bat: Adjust idle time computed idle is 16:00:00-23:59:00  
2024-06-22 15:30:12.079600 INFO pred\_bat: Setting ECO mode as no discharge window planned  
2024-06-22 15:30:12.080729 INFO pred\_bat: Inverter 0 Adjust force discharge to False, change times from 00:00:00 - 00:00:00 to 00:00:00 - 00:00:00  
2024-06-22 15:30:12.081856 INFO pred\_bat: Adjust idle time, charge 15:00:00-16:00:00 discharge 00:00:00-00:00:00  
2024-06-22 15:30:12.083159 INFO pred\_bat: Adjust idle time computed idle is 16:00:00-23:59:00  
2024-06-22 15:30:12.084342 INFO pred\_bat: Inverter 0 Current Target SOC is 100 already at target  
2024-06-22 15:30:12.085947 INFO pred\_bat: Current SOC 98% is less than Target SOC 100. Grid charging enabled with charge current set to 65.00  
2024-06-22 15:30:12.106510 INFO pred\_bat: Will recompute the plan as it is now 10.0 minutes old and will exceed the max age of 10 minutes before the next run  
2024-06-22 15:30:12.109116 INFO pred\_bat: Best charge window [ 22-06 15:30:00 - 22-06 16:00:00 @ 12.6p 100.0%, 22-06 16:00:00 - 22-06 16:30:00 @ 27.3p 100.0%, 22-06 16:30:00 - 22-06 17:00:00 @ 28.66p 100.0%, 22-06 17:00:00 - 22-06 17:30:00 @ 27.72p 100.0%, 22-06 17:30:00 - 22-06 18:00:00 @ 32.13p 100.0%, 22-06 19:00:00 - 22-06 19:30:00 @ 19.74p 100.0%, 22-06 19:30:00 - 22-06 20:00:00 @ 19.74p 100.0%, 22-06 20:00:00 - 22-06 20:30:00 @ 19.4p 100.0%, 22-06 20:30:00 - 22-06 21:00:00 @ 18.69p 100.0%, 22-06 21:00:00 - 22-06 21:30:00 @ 18.86p 100.0%, 22-06 21:30:00 - 22-06 22:00:00 @ 17.91p 100.0%, 22-06 22:00:00 - 22-06 22:30:00 @ 16.13p 100.0%, 22-06 22:30:00 - 22-06 23:00:00 @ 14.7p 100.0%, 22-06 23:00:00 - 22-06 23:30:00 @ 14.7p 100.0%, 22-06 23:30:00 - 23-06 00:00:00 @ 14.7p 100.0%, 23-06 00:00:00 - 23-06 00:30:00 @ 15.75p 100.0%, 23-06 00:30:00 - 23-06 01:00:00 @ 15.12p 100.0%, 23-06 01:00:00 - 23-06 01:30:00 @ 15.52p 100.0%, 23-06 01:30:00 - 23-06 02:00:00 @ 16.76p 100.0%, 23-06 02:00:00 - 23-06 02:30:00 @ 15.96p 100.0%, 23-06 02:30:00 - 23-06 03:00:00 @ 14.7p 100.0%, 23-06 03:00:00 - 23-06 03:30:00 @ 15.2p 100.0%, 23-06 03:30:00 - 23-06 04:00:00 @ 14.38p 100.0%, 23-06 04:00:00 - 23-06 04:30:00 @ 16.11p 100.0%, 23-06 04:30:00 - 23-06 05:00:00 @ 15.23p 100.0%, 23-06 05:00:00 - 23-06 05:30:00 @ 16.04p 100.0%, 23-06 05:30:00 - 23-06 06:00:00 @ 16.8p 100.0%, 23-06 06:00:00 - 23-06 06:30:00 @ 15.54p 100.0%, 23-06 06:30:00 - 23-06 07:00:00

@ 14.7p 100.0%, 23-06 07:00:00 - 23-06 07:30:00 @ 14.49p 100.0%, 23-06 07:30:00 - 23-06 08:00:00 @ 17.24p 100.0%, 23-06 08:00:00 - 23-06 08:30:00 @ 19.95p 100.0%, 23-06 08:30:00 - 23-06 09:00:00 @ 19.95p 100.0%, 23-06 09:00:00 - 23-06 09:30:00 @ 20.26p 100.0%, 23-06 09:30:00 - 23-06 10:00:00 @ 18.67p 100.0%, 23-06 10:00:00 - 23-06 10:30:00 @ 19.95p 100.0%, 23-06 10:30:00 - 23-06 11:00:00 @ 19.32p 100.0%, 23-06 11:00:00 - 23-06 11:30:00 @ 19.13p 100.0%, 23-06 11:30:00 - 23-06 12:00:00 @ 18.88p 100.0%, 23-06 12:00:00 - 23-06 12:30:00 @ 17.7p 100.0%, 23-06 12:30:00 - 23-06 13:00:00 @ 16.59p 100.0%, 23-06 13:00:00 - 23-06 13:30:00 @ 14.88p 100.0%, 23-06 13:30:00 - 23-06 14:00:00 @ 13.57p 100.0%, 23-06 14:00:00 - 23-06 14:30:00 @ 12.6p 100.0%, 23-06 14:30:00 - 23-06 15:00:00 @ 12.6p 100.0%, 23-06 15:00:00 - 23-06 15:30:00 @ 12.6p 100.0%, 23-06 15:30:00 - 23-06 16:00:00 @ 12.6p 100.0%, 23-06 16:00:00 - 23-06 16:30:00 @ 27.3p 100.0%, 23-06 16:30:00 - 23-06 17:00:00 @ 28.66p 100.0%, 23-06 17:00:00 - 23-06 17:30:00 @ 27.72p 100.0%, 23-06 17:30:00 - 23-06 18:00:00 @ 32.13p 100.0%, 23-06 19:00:00 - 23-06 19:30:00 @ 19.74p 100.0%, 23-06 19:30:00 - 23-06 20:00:00 @ 19.74p 100.0%, 23-06 20:00:00 - 23-06 20:30:00 @ 19.4p 100.0%, 23-06 20:30:00 - 23-06 21:00:00 @ 18.69p 100.0%, 23-06 21:00:00 - 23-06 21:30:00 @ 18.86p 100.0%, 23-06 21:30:00 - 23-06 22:00:00 @ 17.91p 100.0%, 23-06 22:00:00 - 23-06 22:30:00 @ 16.13p 100.0%, 23-06 22:30:00 - 23-06 23:00:00 @ 14.7p 100.0%, 23-06 23:00:00 - 23-06 23:30:00 @ 14.7p 100.0%, 23-06 23:30:00 - 24-06 00:00:00 @ 14.7p 100.0%, 24-06 00:00:00 - 24-06 00:30:00 @ 15.75p 100.0%, 24-06 00:30:00 - 24-06 01:00:00 @ 15.12p 100.0%, 24-06 01:00:00 - 24-06 01:30:00 @ 15.52p 100.0%, 24-06 01:30:00 - 24-06 02:00:00 @ 16.76p 100.0%, 24-06 02:00:00 - 24-06 02:30:00 @ 15.96p 100.0%, 24-06 02:30:00 - 24-06 03:00:00 @ 14.7p 100.0%, 24-06 03:00:00 - 24-06 03:30:00 @ 15.2p 100.0%, 24-06 03:30:00 - 24-06 04:00:00 @ 14.38p 100.0%, 24-06 04:00:00 - 24-06 04:30:00 @ 16.11p 100.0%, 24-06 04:30:00 - 24-06 05:00:00 @ 15.23p 100.0%, 24-06 05:00:00 - 24-06 05:30:00 @ 16.04p 100.0%, 24-06 05:30:00 - 24-06 06:00:00 @ 16.8p 100.0%, 24-06 06:00:00 - 24-06 06:30:00 @ 15.54p 100.0%, 24-06 06:30:00 - 24-06 07:00:00 @ 14.7p 100.0%, 24-06 07:00:00 - 24-06 07:30:00 @ 14.49p 100.0%, 24-06 07:30:00 - 24-06 08:00:00 @ 17.24p 100.0%, 24-06 08:00:00 - 24-06 08:30:00 @ 19.95p 100.0%, 24-06 08:30:00 - 24-06 09:00:00 @ 19.95p 100.0%, 24-06 09:00:00 - 24-06 09:30:00 @ 20.26p 100.0%, 24-06 09:30:00 - 24-06 10:00:00 @ 18.67p 100.0%, 24-06 10:00:00 - 24-06 10:30:00 @ 19.95p 100.0%, 24-06 10:30:00 - 24-06 11:00:00 @ 19.32p 100.0%, 24-06 11:00:00 - 24-06 11:30:00 @ 19.13p 100.0%, 24-06 11:30:00 - 24-06 12:00:00 @ 18.88p 100.0%, 24-06 12:00:00 - 24-06 12:30:00 @ 17.7p 100.0%, 24-06 12:30:00 - 24-06 13:00:00 @ 16.59p 100.0%, 24-06 13:00:00 - 24-06 13:30:00 @ 14.88p 100.0%, 24-06 13:30:00 - 24-06 14:00:00 @ 13.57p 100.0%, 24-06 14:00:00 - 24-06 14:30:00 @ 12.6p 100.0%, 24-06 14:30:00 - 24-06 15:00:00 @ 12.6p 100.0%, 24-06 15:00:00 - 24-06 15:30:00 @ 12.6p 100.0% ]

2024-06-22 15:30:12.111296 INFO pred\_bat: Best discharge window [ 22-06 15:30:00 - 22-06 16:00:00 @ 15.0p 100.0%, 22-06 16:00:00 - 22-06 16:30:00 @ 15.0p 100.0%, 22-06 16:30:00 - 22-06 17:00:00 @ 15.0p 100.0%, 22-06 17:00:00 - 22-06 17:30:00 @ 15.0p 100.0%, 22-06 17:30:00 - 22-06 18:00:00 @ 15.0p 100.0%, 22-06 18:00:00 - 22-06 18:30:00 @ 15.0p 100.0%, 22-06 18:30:00 - 22-06 19:00:00 @ 15.0p 100.0%, 22-06 19:00:00 - 22-06 19:30:00 @ 15.0p 100.0%, 22-06 19:30:00 - 22-06 20:00:00 @ 15.0p 100.0%, 22-06 20:00:00 - 22-06 20:30:00 @ 15.0p 100.0%, 22-06 20:30:00 - 22-06 21:00:00 @ 15.0p 100.0%, 22-06 21:00:00 - 22-06 21:30:00 @ 15.0p 100.0%, 22-06 21:30:00 - 22-06 22:00:00 @ 15.0p 100.0%, 22-06





24-06 15:00:00 @ 15.0p 100.0%, 24-06 15:00:00 - 24-06 15:30:00 @ 15.0p  
100.0% ]  
2024-06-22 15:30:12.112785 INFO pred\_bat: PV Forecast 71.7 kWh and 10%  
Forecast 30.5 kWh pv cloud factor 0.3  
2024-06-22 15:30:12.114807 INFO pred\_bat: Load divergence over 8.0 hours mean  
471.29 W, min 12.0 W, max 5580.0 W, std dev 681.89 W, divergence 72.34%  
2024-06-22 15:30:12.151809 INFO pred\_bat: Yesterday basic charge window best:  
[{'start': 870, 'end': 900, 'average': 12.6}, {'start': 2280, 'end': 2400, 'average': 12.6}]  
charge limit best: [17.4, 17.4]  
2024-06-22 15:30:12.225098 INFO pred\_bat: predict yesterday end\_record 06-23  
00:00:00 final soc 16.22 kWh metric -339.26 p metric\_keep 0 min\_soc 16.22 @  
06-22 23:55:00 kWh load 18.32 pv 44.0  
2024-06-22 15:30:12.226704 INFO pred\_bat: [ 00:00, 00:30, 01:00,  
01:30, 02:00, 02:30, 03:00, 03:30, 04:00, 04:30, 05:00, 05:30,  
06:00, 06:30, 07:00, 07:30, 08:00, 08:30, 09:00, 09:30, 10:00,  
10:30, 11:00, 11:30, 12:00, 12:30, 13:00, 13:30, 14:00, 14:30,  
15:00, 15:30, 16:00, 16:30, 17:00, 17:30, 18:00, 18:30, 19:00,  
19:30, 20:00, 20:30, 21:00, 21:30, 22:00, 22:30, 23:00, 23:30]  
2024-06-22 15:30:12.228142 INFO pred\_bat: SOC: [ 15.19, 15.06, 14.98,  
14.89, 14.79, 14.71, 14.6, 14.45, 14.37, 14.27, 13.72, 13.67, 13.63,  
13.65, 13.7, 13.79, 11.21, 10.29, 10.39, 10.9, 11.74, 12.93, 14.19,  
15.45, 16.58, 17.4, 17.4, 17.4, 17.4, 17.14, 17.4, 17.4, 17.4,  
17.32, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.32,  
17.23, 17.1, 16.86, 16.73, 16.39]  
2024-06-22 15:30:12.229566 INFO pred\_bat: BAT: [ g~be-, g~be-, g~be-,  
g~be-, g~be-, g~be+, g~be-, g~be-, g~be-, g~be-, g~be-, g~be-,  
g~be+, g~be+, g~be+, g<be-, g~be-, g~be+, g~be+, g~be+, g~be+,  
g>be+, g>be+, g>be+, g>be+, g>be+, g>be~, g>be~, g>be+, g<bf+,  
g>be~, g>be~, g~be-, g>be+, g>be~, g>be~, g>be~, g>be~, g>be~,  
g>be+, g~be-, g~be-, g~be-, g~be-, g~be-, g~be-, g~be-]  
2024-06-22 15:30:12.231062 INFO pred\_bat: LOAD: [ 0, 0.13, 0.21,  
0.31, 0.41, 0.5, 0.61, 0.76, 0.83, 0.94, 1.46, 1.55, 1.67,  
1.76, 1.85, 1.91, 4.54, 7.04, 7.26, 7.33, 7.45, 7.56, 7.67,  
7.75, 7.93, 8.09, 8.25, 8.5, 9.58, 12.21, 12.95, 13.41, 13.97,  
15.25, 15.55, 15.9, 16.11, 16.51, 16.69, 16.82, 16.92, 17.12, 17.3,  
17.39, 17.51, 17.73, 17.85, 18.17]  
2024-06-22 15:30:12.232570 INFO pred\_bat: PV: [ 0, 0.01, 0.02, 0.03,  
0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.14, 0.23, 0.34,  
0.49, 0.65, 0.83, 1.05, 1.39, 2.0, 3.0, 4.4, 6.1, 8.05, 10.2,  
12.5, 15.2, 17.7, 20.6, 23.6, 26.45, 28.6, 31.1, 33.62, 35.8,  
37.85, 39.85, 41.3, 42.37, 42.93, 43.44, 43.89, 44.0, 44.0, 44.0,  
44.0, 44.0, 44.0]  
2024-06-22 15:30:12.234039 INFO pred\_bat: IMPORT: [ 0, 0, 0, 0,  
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,  
0.05, 1.48, 1.48, 1.48, 1.48, 1.48, 1.48, 1.48, 1.48, 1.48, 1.48,  
1.48, 1.48, 1.65, 2.19, 2.33, 2.33, 2.33, 2.33, 2.33, 2.33,  
2.33, 2.33, 2.33, 2.33, 2.33, 2.33, 2.33, 2.33, 2.33, 2.33,  
2.33, 2.33]  
2024-06-22 15:30:12.235574 INFO pred\_bat: EXPORT: [ 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, 0.0, 0.0,









@ 13.57p 100%, 24-06 14:00:00 - 24-06 14:30:00 @ 12.6p 100%, 24-06 14:30:00 - 24-06 15:00:00 @ 12.6p 100%, 24-06 15:00:00 - 24-06 15:30:00 @ 12.6p 100% ]  
2024-06-22 15:30:23.643710 INFO pred\_bat: Best discharge windows best\_metric -988.03 best\_cost -746.29 metric\_keep 0 end\_record 06-24 15:30:00 windows [ ]  
2024-06-22 15:30:23.644823 INFO pred\_bat: Optimise price set 30.3 pass normal price 30.3 start\_at\_low False best\_price 17.7 best\_metric -988.03 best\_cost -746.29 best\_cycle 4.91 best\_carbon 0  
2024-06-22 15:30:23.694641 INFO pred\_bat: Optimise price set 29.8 pass normal price 29.8 start\_at\_low False best\_price 17.7 best\_metric -883.08 best\_cost -741.4 best\_cycle 7.69 best\_carbon 0  
2024-06-22 15:30:23.741721 INFO pred\_bat: Optimise price set 22.3 pass normal price 22.3 start\_at\_low False best\_price 17.7 best\_metric -883.28 best\_cost -741.4 best\_cycle 7.69 best\_carbon 0  
2024-06-22 15:30:23.786167 INFO pred\_bat: Optimise price set 21.9 pass normal price 21.9 start\_at\_low False best\_price 17.7 best\_metric -883.28 best\_cost -741.4 best\_cycle 7.69 best\_carbon 0  
2024-06-22 15:30:23.966531 INFO pred\_bat: Optimise price set 21.7 pass normal price 21.7 start\_at\_low False best\_price 17.7 best\_metric -883.33 best\_cost -741.4 best\_cycle 7.69 best\_carbon 0  
2024-06-22 15:30:24.060531 INFO pred\_bat: Optimise price set 21.3 pass normal price 21.3 start\_at\_low False best\_price 17.7 best\_metric -883.37 best\_cost -741.5 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.109545 INFO pred\_bat: Optimise price set 21.2 pass normal price 21.2 start\_at\_low False best\_price 17.7 best\_metric -883.43 best\_cost -741.55 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.159210 INFO pred\_bat: Optimise price set 21.1 pass normal price 21.1 start\_at\_low False best\_price 17.7 best\_metric -883.43 best\_cost -741.55 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.207200 INFO pred\_bat: Optimise price set 20.8 pass normal price 20.8 start\_at\_low False best\_price 17.7 best\_metric -883.43 best\_cost -741.55 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.299254 INFO pred\_bat: Optimise price set 20.6 pass normal price 20.6 start\_at\_low False best\_price 17.7 best\_metric -883.43 best\_cost -741.55 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.390476 INFO pred\_bat: Optimise price set 19.7 pass normal price 19.7 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.435999 INFO pred\_bat: Optimise price set 19.5 pass normal price 19.5 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.482455 INFO pred\_bat: Optimise price set 19.0 pass normal price 19.0 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.616471 INFO pred\_bat: Optimise price set 18.6 pass normal price 18.6 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.707199 INFO pred\_bat: Optimise price set 18.5 pass normal price 18.5 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.798664 INFO pred\_bat: Optimise price set 18.3 pass normal

price 18.3 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:24.866317 INFO pred\_bat: Optimise price set 17.8 pass normal  
price 17.8 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:25.004316 INFO pred\_bat: Optimise price set 17.7 pass normal  
price 17.7 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:25.093994 INFO pred\_bat: Optimise price set 17.6 pass normal  
price 17.6 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:25.182384 INFO pred\_bat: Optimise price set 17.4 pass normal  
price 17.4 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:25.273397 INFO pred\_bat: Optimise price set 17.2 pass normal  
price 17.2 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:25.456311 INFO pred\_bat: Optimise price set 16.9 pass normal  
price 16.9 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:25.546416 INFO pred\_bat: Optimise price set 16.8 pass normal  
price 16.8 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:25.638398 INFO pred\_bat: Optimise price set 16.7 pass normal  
price 16.7 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:25.730606 INFO pred\_bat: Optimise price set 16.5 pass normal  
price 16.5 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:25.817887 INFO pred\_bat: Optimise price set 16.3 pass normal  
price 16.3 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:26.470344 INFO pred\_bat: Optimise price set 16.1 pass normal  
price 16.1 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:26.563201 INFO pred\_bat: Optimise price set 15.9 pass normal  
price 15.9 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:26.659837 INFO pred\_bat: Optimise price set 15.1 pass normal  
price 15.1 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:26.747377 INFO pred\_bat: Optimise price set 14.0 pass normal  
price 14.0 start\_at\_low False best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:27.639301 INFO pred\_bat: Best charge windows best\_metric  
-883.54 best\_cost -741.56 metric\_keep 0 end\_record 06-24 15:30:00 windows  
[ 22-06 15:30:00 - 22-06 16:00:00 @ 12.6p 100%, 22-06 20:00:00 - 22-06 20:30:00  
@ 19.4p 97%, 22-06 20:30:00 - 22-06 21:00:00 @ 18.69p 97%, 22-06 21:00:00 -  
22-06 21:30:00 @ 18.86p 100%, 22-06 21:30:00 - 22-06 22:00:00 @ 17.91p 100%,  
22-06 22:00:00 - 22-06 22:30:00 @ 16.13p 100%, 22-06 22:30:00 - 22-06 23:00:00

@ 14.7p 100%, 22-06 23:00:00 - 22-06 23:30:00 @ 14.7p 100%, 22-06 23:30:00 - 23-06 00:00:00 @ 14.7p 100%, 23-06 00:00:00 - 23-06 00:30:00 @ 15.75p 100%, 23-06 00:30:00 - 23-06 01:00:00 @ 15.12p 100%, 23-06 01:00:00 - 23-06 01:30:00 @ 15.52p 100%, 23-06 01:30:00 - 23-06 02:00:00 @ 16.76p 100%, 23-06 02:00:00 - 23-06 02:30:00 @ 15.96p 100%, 23-06 02:30:00 - 23-06 03:00:00 @ 14.7p 100%, 23-06 03:00:00 - 23-06 03:30:00 @ 15.2p 100%, 23-06 03:30:00 - 23-06 04:00:00 @ 14.38p 100%, 23-06 04:00:00 - 23-06 04:30:00 @ 16.11p 100%, 23-06 04:30:00 - 23-06 05:00:00 @ 15.23p 100%, 23-06 05:00:00 - 23-06 05:30:00 @ 16.04p 100%, 23-06 05:30:00 - 23-06 06:00:00 @ 16.8p 100%, 23-06 06:00:00 - 23-06 06:30:00 @ 15.54p 100%, 23-06 06:30:00 - 23-06 07:00:00 @ 14.7p 100%, 23-06 07:00:00 - 23-06 07:30:00 @ 14.49p 100%, 23-06 13:00:00 - 23-06 13:30:00 @ 14.88p 100%, 23-06 13:30:00 - 23-06 14:00:00 @ 13.57p 100%, 23-06 14:00:00 - 23-06 14:30:00 @ 12.6p 100%, 23-06 14:30:00 - 23-06 15:00:00 @ 12.6p 100%, 23-06 15:00:00 - 23-06 15:30:00 @ 12.6p 100%, 23-06 15:30:00 - 23-06 16:00:00 @ 12.6p 100%, 23-06 22:30:00 - 23-06 23:00:00 @ 14.7p 100%, 23-06 23:00:00 - 23-06 23:30:00 @ 14.7p 100%, 23-06 23:30:00 - 24-06 00:00:00 @ 14.7p 100%, 24-06 00:00:00 - 24-06 00:30:00 @ 15.75p 100%, 24-06 00:30:00 - 24-06 01:00:00 @ 15.12p 100%, 24-06 01:00:00 - 24-06 01:30:00 @ 15.52p 100%, 24-06 01:30:00 - 24-06 02:00:00 @ 16.76p 100%, 24-06 02:00:00 - 24-06 02:30:00 @ 15.96p 100%, 24-06 02:30:00 - 24-06 03:00:00 @ 14.7p 100%, 24-06 03:00:00 - 24-06 03:30:00 @ 15.2p 100%, 24-06 03:30:00 - 24-06 04:00:00 @ 14.38p 100%, 24-06 04:00:00 - 24-06 04:30:00 @ 16.11p 100%, 24-06 04:30:00 - 24-06 05:00:00 @ 15.23p 100%, 24-06 05:00:00 - 24-06 05:30:00 @ 16.04p 100%, 24-06 05:30:00 - 24-06 06:00:00 @ 16.8p 100%, 24-06 06:00:00 - 24-06 06:30:00 @ 15.54p 100%, 24-06 07:30:00 - 24-06 08:00:00 @ 17.24p 100%, 24-06 13:30:00 - 24-06 14:00:00 @ 13.57p 100%, 24-06 14:00:00 - 24-06 14:30:00 @ 12.6p 100%, 24-06 15:00:00 - 24-06 15:30:00 @ 12.6p 100% ]  
2024-06-22 15:30:27.640717 INFO pred\_bat: Best discharge windows best\_metric -883.54 best\_cost -741.56 metric\_keep 0 end\_record 06-24 15:30:00 windows [ ]  
2024-06-22 15:30:27.641790 INFO pred\_bat: Optimise price set 14.0 pass low price 14.0 start\_at\_low True best\_price 17.7 best\_metric -883.54 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:28.483008 INFO pred\_bat: Optimise price set 15.1 pass low price 15.1 start\_at\_low True best\_price 17.7 best\_metric -883.54 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:28.577866 INFO pred\_bat: Optimise price set 15.9 pass low price 15.9 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:28.669633 INFO pred\_bat: Optimise price set 16.1 pass low price 16.1 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:28.766685 INFO pred\_bat: Optimise price set 16.3 pass low price 16.3 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:29.402883 INFO pred\_bat: Optimise price set 16.5 pass low price 16.5 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:29.491253 INFO pred\_bat: Optimise price set 16.7 pass low price 16.7 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56 best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:29.582647 INFO pred\_bat: Optimise price set 16.8 pass low price



16.8 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:29.676821 INFO pred\_bat: Optimise price set 16.9 pass low price  
16.9 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:29.765829 INFO pred\_bat: Optimise price set 17.2 pass low price  
17.2 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:29.945840 INFO pred\_bat: Optimise price set 17.4 pass low price  
17.4 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:30.037950 INFO pred\_bat: Optimise price set 17.6 pass low price  
17.6 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:30.124207 INFO pred\_bat: Optimise price set 17.7 pass low price  
17.7 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:30.211283 INFO pred\_bat: Optimise price set 17.8 pass low price  
17.8 start\_at\_low True best\_price 17.7 best\_metric -883.44 best\_cost -741.56  
best\_cycle 7.79 best\_carbon 0  
2024-06-22 15:30:30.536264 INFO pred\_bat: Optimise price set 18.3 pass low price  
18.3 start\_at\_low True best\_price 17.7 best\_metric -883.68 best\_cost -741.66  
best\_cycle 7.52 best\_carbon 0  
2024-06-22 15:30:30.625416 INFO pred\_bat: Optimise price set 18.5 pass low price  
18.5 start\_at\_low True best\_price 17.7 best\_metric -883.68 best\_cost -741.66  
best\_cycle 7.52 best\_carbon 0  
2024-06-22 15:30:30.716951 INFO pred\_bat: Optimise price set 18.6 pass low price  
18.6 start\_at\_low True best\_price 17.7 best\_metric -883.68 best\_cost -741.66  
best\_cycle 7.52 best\_carbon 0  
2024-06-22 15:30:30.807560 INFO pred\_bat: Optimise price set 19.0 pass low price  
19.0 start\_at\_low True best\_price 17.7 best\_metric -883.68 best\_cost -741.66  
best\_cycle 7.52 best\_carbon 0  
2024-06-22 15:30:30.943489 INFO pred\_bat: Optimise price set 19.5 pass low price  
19.5 start\_at\_low True best\_price 17.7 best\_metric -883.68 best\_cost -741.66  
best\_cycle 7.52 best\_carbon 0  
2024-06-22 15:30:31.032972 INFO pred\_bat: Optimise price set 19.7 pass low price  
19.7 start\_at\_low True best\_price 17.7 best\_metric -883.68 best\_cost -741.66  
best\_cycle 7.52 best\_carbon 0  
2024-06-22 15:30:31.253096 INFO pred\_bat: Optimise price set 20.6 pass low price  
20.6 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51  
best\_cycle 7.19 best\_carbon 0  
2024-06-22 15:30:31.556967 INFO pred\_bat: Optimise price set 20.8 pass low price  
20.8 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51  
best\_cycle 7.19 best\_carbon 0  
2024-06-22 15:30:31.870981 INFO pred\_bat: Optimise price set 21.1 pass low price  
21.1 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51  
best\_cycle 7.19 best\_carbon 0  
2024-06-22 15:30:31.961237 INFO pred\_bat: Optimise price set 21.2 pass low price  
21.2 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51  
best\_cycle 7.19 best\_carbon 0

2024-06-22 15:30:32.048638 INFO pred\_bat: Optimise price set 21.3 pass low price 21.3 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51 best\_cycle 7.19 best\_carbon 0

2024-06-22 15:30:32.242003 INFO pred\_bat: Optimise price set 21.7 pass low price 21.7 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51 best\_cycle 7.19 best\_carbon 0

2024-06-22 15:30:32.629238 INFO pred\_bat: Optimise price set 21.9 pass low price 21.9 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51 best\_cycle 7.19 best\_carbon 0

2024-06-22 15:30:32.895656 INFO pred\_bat: Optimise price set 22.3 pass low price 22.3 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51 best\_cycle 7.19 best\_carbon 0

2024-06-22 15:30:33.004898 INFO pred\_bat: Optimise price set 29.8 pass low price 29.8 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51 best\_cycle 7.19 best\_carbon 0

2024-06-22 15:30:33.092219 INFO pred\_bat: Optimise price set 30.3 pass low price 30.3 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51 best\_cycle 7.19 best\_carbon 0

2024-06-22 15:30:33.226672 INFO pred\_bat: Optimise price set 31.3 pass low price 31.3 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51 best\_cycle 7.19 best\_carbon 0

2024-06-22 15:30:33.332827 INFO pred\_bat: Optimise price set 35.0 pass low price 35.0 start\_at\_low True best\_price 17.7 best\_metric -883.7 best\_cost -741.51 best\_cycle 7.19 best\_carbon 0

2024-06-22 15:30:33.510644 INFO pred\_bat: Best charge windows best\_metric -883.7 best\_cost -741.51 metric\_keep 0 end\_record 06-24 15:30:00 windows [ 22-06 15:30:00 - 22-06 16:00:00 @ 12.6p 100%, 22-06 20:00:00 - 22-06 20:30:00 @ 19.4p 97%, 22-06 20:30:00 - 22-06 21:00:00 @ 18.69p 97%, 22-06 21:00:00 - 22-06 21:30:00 @ 18.86p 97%, 22-06 21:30:00 - 22-06 22:00:00 @ 17.91p 100%, 22-06 22:00:00 - 22-06 22:30:00 @ 16.13p 100%, 22-06 22:30:00 - 22-06 23:00:00 @ 14.7p 100%, 22-06 23:00:00 - 22-06 23:30:00 @ 14.7p 100%, 22-06 23:30:00 - 23-06 00:00:00 @ 14.7p 100%, 23-06 00:00:00 - 23-06 00:30:00 @ 15.75p 100%, 23-06 00:30:00 - 23-06 01:00:00 @ 15.12p 100%, 23-06 01:00:00 - 23-06 01:30:00 @ 15.52p 100%, 23-06 01:30:00 - 23-06 02:00:00 @ 16.76p 100%, 23-06 02:00:00 - 23-06 02:30:00 @ 15.96p 100%, 23-06 02:30:00 - 23-06 03:00:00 @ 14.7p 100%, 23-06 03:00:00 - 23-06 03:30:00 @ 15.2p 100%, 23-06 03:30:00 - 23-06 04:00:00 @ 14.38p 100%, 23-06 04:00:00 - 23-06 04:30:00 @ 16.11p 100%, 23-06 04:30:00 - 23-06 05:00:00 @ 15.23p 100%, 23-06 05:00:00 - 23-06 05:30:00 @ 16.04p 100%, 23-06 05:30:00 - 23-06 06:00:00 @ 16.8p 100%, 23-06 06:00:00 - 23-06 06:30:00 @ 15.54p 100%, 23-06 06:30:00 - 23-06 07:00:00 @ 14.7p 100%, 23-06 07:00:00 - 23-06 07:30:00 @ 14.49p 100%, 23-06 13:00:00 - 23-06 13:30:00 @ 14.88p 100%, 23-06 13:30:00 - 23-06 14:00:00 @ 13.57p 100%, 23-06 14:00:00 - 23-06 14:30:00 @ 12.6p 100%, 23-06 14:30:00 - 23-06 15:00:00 @ 12.6p 100%, 23-06 15:00:00 - 23-06 15:30:00 @ 12.6p 100%, 23-06 15:30:00 - 23-06 16:00:00 @ 12.6p 100%, 23-06 21:30:00 - 23-06 22:00:00 @ 17.91p 71%, 23-06 22:00:00 - 23-06 22:30:00 @ 16.13p 68%, 23-06 22:30:00 - 23-06 23:00:00 @ 14.7p 100%, 23-06 23:00:00 - 23-06 23:30:00 @ 14.7p 100%, 23-06 23:30:00 - 24-06 00:00:00 @ 14.7p 100%, 24-06 00:00:00 - 24-06 00:30:00 @ 15.75p 100%, 24-06 00:30:00 - 24-06 01:00:00 @ 15.12p 100%, 24-06 01:00:00 - 24-06 01:30:00 @ 15.52p 100%, 24-06 01:30:00 - 24-06 02:00:00 @ 16.76p 100%, 24-06 02:00:00 - 24-06 02:30:00 @ 15.96p 100%,





28.02, 29.04, 30.18, 31.21, 31.79, 32.47, 33.07, 33.57, 34.38,  
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40.91, 42.77, 44.71, 46.49, 48.07, 49.53, 50.71, 52.12]

2024-06-22 15:30:33.567455 INFO pred\_bat: METRIC: [-137.27, -147.3, -163.12,  
-164.02, -179.66, -191.61, -197.59, -204.03, -207.1, -207.48, -207.48, -207.48,  
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-359.32, -367.67, -396.29, -426.78, -457.26, -485.12, -514.28, -540.94, -564.65,  
-586.54, -604.18, -625.3]

2024-06-22 15:30:33.796903 INFO pred\_bat: Battery has 48.0 hours left - now at 17.05

2024-06-22 15:30:33.843308 INFO pred\_bat: predict base10 end\_record 06-24  
15:30:00 final soc 17.4 kWh metric 17.15 p metric\_keep 0 min\_soc 8.58 @ 06-24  
08:05:00 kWh load 40.09 pv 52.1

2024-06-22 15:30:33.845551 INFO pred\_bat: [ 15:30, 16:00, 16:30,  
17:00, 17:30, 18:00, 18:30, 19:00, 19:30, 20:00, 20:30, 21:00,  
21:30, 22:00, 22:30, 23:00, 23:30, 00:00, 00:30, 01:00, 01:30,  
02:00, 02:30, 03:00, 03:30, 04:00, 04:30, 05:00, 05:30, 06:00,  
06:30, 07:00, 07:30, 08:00, 08:30, 09:00, 09:30, 10:00, 10:30,  
11:00, 11:30, 12:00, 12:30, 13:00, 13:30, 14:00, 14:30, 15:00,  
15:30, 16:00, 16:30, 17:00, 17:30, 18:00, 18:30, 19:00, 19:30,  
20:00, 20:30, 21:00, 21:30, 22:00, 22:30, 23:00, 23:30, 00:00,  
00:30, 01:00, 01:30, 02:00, 02:30, 03:00, 03:30, 04:00, 04:30,  
05:00, 05:30, 06:00, 06:30, 07:00, 07:30, 08:00, 08:30, 09:00,  
09:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 13:00, 13:30,  
14:00, 14:30, 15:00]

2024-06-22 15:30:33.847547 INFO pred\_bat: SOC: [ 17.05, 17.4, 17.29,  
16.91, 17.23, 17.34, 17.31, 17.4, 17.4, 17.37, 17.25, 17.04, 16.83,  
16.69, 16.44, 16.2, 16.02, 15.8, 15.59, 15.46, 15.3, 15.09, 14.93,  
14.77, 14.65, 14.49, 14.31, 14.08, 13.99, 13.95, 13.94, 13.99, 14.1,  
14.21, 14.34, 14.41, 14.6, 14.88, 15.21, 15.42, 15.86, 16.34, 16.59,  
16.88, 16.73, 16.71, 16.59, 15.79, 17.4, 17.4, 16.93, 16.87, 15.44,  
14.34, 13.79, 13.85, 13.79, 13.54, 13.41, 12.76, 12.59, 12.41,  
12.26, 12.11, 11.9, 11.52, 11.34, 11.02, 10.86, 10.72, 10.61, 10.4,  
10.25, 10.08, 9.98, 9.86, 9.74, 9.69, 9.72, 9.87, 10.21, 8.67,  
8.83, 9.23, 9.94, 10.74, 11.62, 12.54, 13.44, 14.16, 15.01, 15.68,  
16.13, 16.5, 16.54, 16.92]

2024-06-22 15:30:33.849294 INFO pred\_bat: BAT: [ g<bf+, g~be-, g~be+,  
g~be+, g~be+, g~be-, g~be+, g~be-, g~be-, g~be-, g~be-, g~be-,  
g~be-, g~be-, g~be~, g~be~, g~be~, g~be-, g~be~, g~be~, g~be~,  
g~be~, g~be~, g~be~, g~be~, g~be~, g~be+, g~be+, g~be+, g~be+,

g~be+, g~be+, g~be+, g~be+, g~be-, g~be+, g~be+, g~be+, g~be-,  
g~be+, g~be+, g~be-, g~be+, g~be+, g~be+, g~be+, g~be+, g<bf+,  
g>bf+, g>be~, g~be+, g~be-, g~be+, g~be+, g~be-, g~be-, g~be-,  
g~be+, g~be-, g~be+, g~be-, g~be~, g~be-, g~be~, g~be-, g~be-,  
g~be-, g~be~, g~be-, g~be-, g~be-, g~be~, g~be~, g~be-, g~be-,  
g~be-, g~be-, g~be+, g~be+, g~be+, g~be-, g~be+, g~be+, g~be+,  
g~be+, g~be+, g~be+, g~be+, g~be+, g~be+, g~be+, g~be+, g~be+,  
g~be+, g~be+, g<bf+]

2024-06-22 15:30:33.851321 INFO pred\_bat: LOAD: [ 8.52, 9.22, 9.7,  
10.93, 11.13, 11.41, 11.87, 12.05, 12.25, 12.44, 12.63, 12.87,  
13.08, 13.21, 13.43, 13.66, 13.83, 14.03, 14.23, 14.35, 14.5, 14.69,  
14.84, 14.99, 15.1, 15.25, 15.42, 15.64, 15.76, 15.87, 16.02, 16.16,  
16.28, 16.47, 16.66, 16.92, 17.09, 17.22, 17.36, 17.71, 17.92,  
18.18, 18.65, 19.04, 19.79, 20.4, 21.07, 22.37, 23.08, 23.99, 24.8,  
25.23, 27.13, 28.42, 29.16, 29.27, 29.46, 29.81, 29.98, 30.63,  
30.78, 30.95, 31.09, 31.23, 31.43, 31.78, 31.95, 32.25, 32.4, 32.53,  
32.63, 32.82, 32.97, 33.13, 33.22, 33.33, 33.47, 33.6, 33.72, 33.84,  
33.87, 36.2, 36.61, 36.91, 37.03, 37.17, 37.29, 37.39, 37.5, 37.75,  
37.84, 38.09, 38.51, 38.9, 39.51, 39.65]

2024-06-22 15:30:33.853267 INFO pred\_bat: PV: [ 21.6, 22.2, 22.78,  
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38.58, 38.96, 39.44, 40.04, 40.77, 41.63, 42.62, 43.67, 44.74, 45.8,  
46.82, 47.8, 48.76, 49.66, 50.46, 51.14, 51.68]

2024-06-22 15:30:33.855250 INFO pred\_bat: IMPORT: [ 0.1, 0.7, 0.7,  
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4.13, 4.13, 4.13]

2024-06-22 15:30:33.857206 INFO pred\_bat: EXPORT: [ 12.5, 12.62, 12.8,  
12.8, 12.8, 12.91, 12.91, 13.02, 13.13, 13.14, 13.14, 13.14, 13.14,  
13.14, 13.14, 13.14, 13.14, 13.14, 13.14, 13.14, 13.14, 13.14,  
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13.26, 13.26, 13.26, 13.26, 13.26, 13.26, 13.26, 13.26, 13.26,  
13.26, 13.26, 13.26, 13.26, 13.26, 13.26, 13.26, 13.26, 13.26,  
13.26, 13.26]

2024-06-22 15:30:33.859245 INFO pred\_bat: METRIC: [-137.27, -131.52,  
-134.25, -124.67, -124.67, -126.22, -126.22, -127.94, -129.62, -129.73, -129.73,  
-129.73, -129.73, -129.73, -129.73, -129.73, -129.73, -129.73, -81.07, -81.07,  
-81.07, -81.07, -81.07, -81.07, -81.07, -81.07, -81.07, -81.07, -81.07,  
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-81.07, -56.99, -51.75, -52.26, -52.26, -45.8, -45.8, -45.8, -45.8, -45.8,  
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2.86, 2.86, 2.86, 2.86, 2.86, 2.86, 2.86, 2.86, 2.86, 2.86,  
2.86, 2.86, 2.86, 2.86, 10.42, 10.42, 10.42, 10.42, 10.42, 10.42,  
10.42, 10.42, 10.42, 10.42, 10.42, 10.42, 10.42, 10.42, 10.42]

2024-06-22 15:30:33.964877 INFO pred\_bat: predict best10 end\_record 06-24  
15:30:00 final soc 17.4 kWh metric 12.73 p metric\_keep 0 min\_soc 12.26 @ 06-23  
22:25:00 kWh load 40.09 pv 52.1

2024-06-22 15:30:33.967051 INFO pred\_bat: [ 15:30, 16:00, 16:30,  
17:00, 17:30, 18:00, 18:30, 19:00, 19:30, 20:00, 20:30, 21:00,  
21:30, 22:00, 22:30, 23:00, 23:30, 00:00, 00:30, 01:00, 01:30,  
02:00, 02:30, 03:00, 03:30, 04:00, 04:30, 05:00, 05:30, 06:00,  
06:30, 07:00, 07:30, 08:00, 08:30, 09:00, 09:30, 10:00, 10:30,  
11:00, 11:30, 12:00, 12:30, 13:00, 13:30, 14:00, 14:30, 15:00,  
15:30, 16:00, 16:30, 17:00, 17:30, 18:00, 18:30, 19:00, 19:30,  
20:00, 20:30, 21:00, 21:30, 22:00, 22:30, 23:00, 23:30, 00:00,  
00:30, 01:00, 01:30, 02:00, 02:30, 03:00, 03:30, 04:00, 04:30,  
05:00, 05:30, 06:00, 06:30, 07:00, 07:30, 08:00, 08:30, 09:00,  
09:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 13:00, 13:30,  
14:00, 14:30, 15:00]

2024-06-22 15:30:33.969033 INFO pred\_bat: SOC: [ 17.05, 17.4, 17.29,  
16.91, 17.23, 17.34, 17.31, 17.4, 17.4, 17.37, 17.25, 17.04, 16.83,  
17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,  
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17.39, 17.4, 17.36, 17.4, 17.4, 17.4, 17.39, 17.4, 17.4, 17.39,  
17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 16.93, 16.87, 15.44,  
14.34, 13.79, 13.85, 13.79, 13.54, 13.41, 12.76, 12.59, 12.41,  
12.26, 16.06, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,  
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17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,  
17.4, 17.4, 17.4, 17.4]

2024-06-22 15:30:33.970901 INFO pred\_bat: BAT: [ g<bf+, g~be-, g~be+,  
g~be+, g~be+, g~be-, g~be+, g~be-, g~be-, g~be-, g~be-, g~be-,  
g<bf+, g<bf+, g~be~, g~be~, g~be~, g<be-, g~be~, g~be~, g~be~,  
g~be~, g~be~, g~be~, g~be~, g~be~, g>be~, g>be~, g>be~, g>be~,  
g>be~, g>be~, g>be~, g>be+, g~be-, g~be+, g>be~, g>be~, g~be-,  
g>be+, g>be~, g~be-, g>be+, g>be~, g>be~, g>be~, g>be~, g>be~,  
g~be+, g~be-, g~be+, g~be-, g~be~, g<bf+, g<bf+, g<bf+, g<be-,  
g<be-, g~be~, g<be-, g<be-, g<be-, g~be~, g~be~, g<be-, g<be-,  
g<be-, g<be-, g>be~, g>be~, g>be~, g<be-, g>be~, g>be+, g>be~]





-28.49, -28.27, -29.14, -30.92, -32.69, -34.65, -36.27, -38.66, -42.93,  
-48.08, -51.4, -58.17, -65.53, -69.55, -73.87, -72.09, -72.31, -71.79,  
-62.64, -60.37, -55.16, -55.67, -55.67, -49.21, -49.21, -49.21, -49.21,  
-49.21, -49.21, -49.21, -49.21, -49.21, -49.21, -49.21, 12.74, 36.93,  
42.06, 93.34, 97.91, 100.25, 102.43, 104.01, 106.85, 109.06, 111.34,  
112.81, 114.42, 116.25, 117.07, 116.47, 114.19, 109.03, 141.25, 138.74,  
132.59, 121.63, 109.23, 95.59, 81.36, 67.41, 56.21, 43.09, 32.75,  
25.86, 19.79, 18.68, 12.75]

2024-06-22 15:30:34.100405 INFO pred\_bat: predict best end\_record 06-24  
15:30:00 final soc 17.4 kWh metric -643.46 p metric\_keep 0 min\_soc 15.65 @ 06-23  
22:25:00 kWh load 37.21 pv 93.37

2024-06-22 15:30:34.102575 INFO pred\_bat: [ 15:30, 16:00, 16:30,  
17:00, 17:30, 18:00, 18:30, 19:00, 19:30, 20:00, 20:30, 21:00,  
21:30, 22:00, 22:30, 23:00, 23:30, 00:00, 00:30, 01:00, 01:30,  
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06:30, 07:00, 07:30, 08:00, 08:30, 09:00, 09:30, 10:00, 10:30,  
11:00, 11:30, 12:00, 12:30, 13:00, 13:30, 14:00, 14:30, 15:00,  
15:30, 16:00, 16:30, 17:00, 17:30, 18:00, 18:30, 19:00, 19:30,  
20:00, 20:30, 21:00, 21:30, 22:00, 22:30, 23:00, 23:30, 00:00,  
00:30, 01:00, 01:30, 02:00, 02:30, 03:00, 03:30, 04:00, 04:30,  
05:00, 05:30, 06:00, 06:30, 07:00, 07:30, 08:00, 08:30, 09:00,  
09:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 13:00, 13:30,  
14:00, 14:30, 15:00]

2024-06-22 15:30:34.104525 INFO pred\_bat: SOC: [ 17.05, 17.4, 17.4,  
17.4, 17.4, 17.4, 17.4, 17.4, 17.39, 17.28, 17.1, 16.91,  
17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,  
17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,  
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16.34, 16.29, 16.68, 16.85, 16.75, 16.68, 16.09, 15.96, 15.79,  
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17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4, 17.4,  
17.4, 17.4, 17.4, 17.4]

2024-06-22 15:30:34.106350 INFO pred\_bat: BAT: [ g<bf+, g>be~, g>be~,  
g>be+, g>be~, g>be~, g>be~, g>be~, g~be-, g~be-, g~be-, g~be-,  
g<bf+, g<bf+, g<be-, g<be-, g<be-, g<be-, g<be-, g<be-, g<be-,  
g<be-, g<be-, g<be-, g<be-, g<be-, g>be~, g>be~, g>be~, g>be~,  
g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~,  
g>be~, g>be~, g>be+, g~be-, g~be+, g~be+, g~be+, g~be-, g~be-,  
g~be-, g~be-, g~be-, g~be-, g~be-, g<bf+, g<bf+, g<be-, g<be-,  
g<be-, g<be-, g<be-, g<be-, g<be-, g<be-, g<be-, g<be-, g<be-,  
g<be-, g<be-, g>be~, g>be~, g>be~, g<be-, g>be~, g>be~, g>be~,  
g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~, g>be~,  
g>be~, g>be~, g>be~]

2024-06-22 15:30:34.108348 INFO pred\_bat: LOAD: [ 8.52, 9.13, 9.57,  
10.71, 10.89, 11.13, 11.56, 11.72, 11.9, 12.08, 12.25, 12.47, 12.65,  
12.78, 12.99, 13.18, 13.35, 13.52, 13.71, 13.82, 13.95, 14.12,  
14.26, 14.4, 14.5, 14.64, 14.79, 14.99, 15.1, 15.2, 15.33, 15.46,

15.57, 15.74, 15.91, 16.15, 16.31, 16.42, 16.55, 16.86, 17.06,  
17.29, 17.72, 18.07, 18.77, 19.29, 19.9, 21.06, 21.75, 22.56, 23.32,  
23.68, 25.43, 26.57, 27.27, 27.38, 27.56, 27.85, 28.02, 28.61,  
28.75, 28.91, 29.04, 29.16, 29.35, 29.64, 29.82, 30.08, 30.23,  
30.35, 30.43, 30.61, 30.74, 30.89, 30.97, 31.07, 31.2, 31.32, 31.43,  
31.53, 31.56, 33.66, 34.05, 34.33, 34.43, 34.56, 34.67, 34.77,  
34.86, 35.08, 35.17, 35.4, 35.76, 36.13, 36.66, 36.81]

2024-06-22 15:30:34.110365 INFO pred\_bat: PV: [ 21.6, 23.27, 24.8,  
26.21, 27.45, 28.51, 29.35, 29.97, 30.35, 30.55, 30.63, 30.68,  
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31.37, 31.92, 32.68, 33.62, 34.7, 35.89, 37.22, 38.68, 40.35, 42.16,  
44.05, 45.94, 47.75, 49.49, 51.2, 52.87, 54.49, 56.03, 57.47, 58.8,  
59.99, 61.04, 61.92, 62.61, 63.13, 63.5, 63.71, 63.82, 63.87, 63.88,  
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64.53, 65.13, 65.99, 67.15, 68.56, 70.24, 72.13, 74.2, 76.37, 78.54,  
80.66, 82.74, 84.79, 86.76, 88.63, 90.38, 91.96]

2024-06-22 15:30:34.112363 INFO pred\_bat: IMPORT: [ 0.1, 0.12, 0.12,  
0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28, 0.28,  
0.92, 1.13, 1.33, 1.49, 1.67, 1.86, 1.97, 2.1, 2.27, 2.41,  
2.54, 2.65, 2.79, 2.94, 3.13, 3.21, 3.26, 3.28, 3.29, 3.29,  
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5.53, 5.72, 6.02, 6.19, 6.45, 6.6, 6.72, 6.81, 6.98, 7.11,  
7.26, 7.34, 7.43, 7.54, 7.6, 7.66, 7.66, 7.66, 7.66, 8.96, 8.96,  
8.96, 8.96, 8.96, 8.96, 8.96, 8.96, 8.96, 8.96, 8.96, 8.96,  
8.96, 8.96, 8.96]

2024-06-22 15:30:34.114394 INFO pred\_bat: EXPORT: [ 12.5, 13.19, 14.24,  
14.6, 15.64, 16.44, 16.84, 17.27, 17.47, 17.5, 17.5, 17.5, 17.5,  
17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5, 17.5,  
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18.85, 19.6, 20.42, 21.43, 22.62, 23.92, 25.25, 26.82, 28.44, 29.87,  
31.29, 32.3, 33.45, 34.47, 35.1, 35.93, 36.52, 37.03, 37.84, 37.84,  
37.84, 37.84, 37.84, 37.84, 37.84, 37.84, 37.84, 37.84, 37.84,  
37.84, 37.84, 37.84, 37.84, 37.84, 37.84, 37.84, 37.84, 37.84,  
37.84, 37.84, 37.84, 37.84, 37.84, 37.86, 37.89, 38.0, 38.23, 38.79,  
38.84, 39.58, 40.7, 42.23, 43.95, 45.88, 47.91, 49.94, 51.8, 53.74,  
55.52, 57.1, 58.56, 59.73, 61.14]

2024-06-22 15:30:34.116450 INFO pred\_bat: METRIC: [-137.27, -147.3, -163.12,  
-164.02, -179.66, -191.61, -197.59, -204.03, -207.1, -207.48, -207.48, -207.48,  
-207.48, -195.92, -192.57, -189.71, -187.28, -184.73, -133.07, -131.38, -129.36,  
-126.46, -124.24, -122.26, -120.66, -118.71, -116.27, -113.39, -112.3, -112.03,  
-112.55, -115.98, -122.34, -131.04, -142.28, -154.55, -169.73, -187.46, -207.07,  
-226.91, -250.47, -274.9, -296.23, -317.51, -332.79, -349.93, -365.31, -372.25,  
-384.67, -393.6, -401.21, -413.35, -412.2, -412.2, -412.2, -412.2, -412.2,  
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-324.32, -320.26, -318.04, -316.04, -314.62, -312.04, -310.07, -307.95, -306.62,  
-305.2, -303.79, -303.23, -303.96, -307.49, -315.82, -294.13, -305.24, -321.93,

-344.94, -370.82, -399.63, -430.12, -460.6, -488.45, -517.62, -544.28, -567.99, -589.88, -607.52, -628.64]

2024-06-22 15:30:34.118843 INFO pred\_bat: STATE:

```
[ Chrg,
Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg,
Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg,
Chrg, Chrg, Chrg, Chrg,
Chrg,
, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg,
Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg,
Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg, Chrg,
Chrg, Chrg]
```

2024-06-22 15:30:34.404657 INFO pred\_bat: Evaluate trigger {'name': 'large', 'minutes': 60, 'energy': 1.0} results off total\_energy 0

2024-06-22 15:30:34.418018 INFO pred\_bat: Evaluate trigger {'name': 'small', 'minutes': 15, 'energy': 0.25} results off total\_energy 0

2024-06-22 15:30:34.429759 INFO pred\_bat: Best charging limit socs [17.4, 17.4, 17.4, 17.4, 17.4, 17.4] export [] gives import battery 8.67 house 0.2 export 62.13 metric -643.46 metric10 12.73

2024-06-22 15:30:34.567204 INFO pred\_bat: Inverter 0: Type SX4 Solax Gen4 (Modbus Power Control)

2024-06-22 15:30:34.568054 INFO pred\_bat: Warn: Inverter 0: Using inverter type SX4 - not all features are available

2024-06-22 15:30:34.569494 INFO pred\_bat: Invertor time 2024-06-22 15:30:30+01:00 AppDaemon time 2024-06-22 15:30:34.568301+01:00 difference -0.08 minutes

2024-06-22 15:30:34.570793 INFO pred\_bat: Reserve min: 10.0% Battery\_min:0.0%

2024-06-22 15:30:34.572170 INFO pred\_bat: Inverter 0 with soc\_max 17.4 kWh nominal\_capacity 17.4 kWh battery rate raw 8000.0 w charge rate 8.0 kW discharge rate 8.0 kW battery\_rate\_min 0.0 w ac limit 8.0 kW export limit 8.0 kW reserve 10.0 % current\_reserve 10.0 %

2024-06-22 15:30:34.573010 INFO pred\_bat: Inverter 0 scheduled\_charge\_enable on scheduled\_discharge\_enable off

2024-06-22 15:30:34.574106 INFO pred\_bat: Inverter 0 SOC: 17.05 kW 98 % Current charge rate 2600.0 w Current discharge rate 2600.0 w Current power 0.0 w Current voltage 360.5

2024-06-22 15:30:34.575442 INFO pred\_bat: Inverter 0 Wrote scheduled\_charge\_enable to True successfully and got on

2024-06-22 15:30:34.576378 INFO pred\_bat: Inverter 0 scheduled\_charge\_enable set to True

2024-06-22 15:30:34.577361 INFO pred\_bat: Inverter 0 scheduled charge enable is True

2024-06-22 15:30:34.578403 INFO pred\_bat: Inverter 0 charge windows currently [{'start': 900, 'end': 960, 'average': 0}, {'start': 2340, 'end': 2400, 'average': 0}, {'start': 3780, 'end': 3840, 'average': 0}]

2024-06-22 15:30:34.579530 INFO pred\_bat: Inverter 0 Charge settings: 06-22 15:00:00-06-22 16:00:00 limit 100.0 power 2.6 kW

2024-06-22 15:30:34.580783 INFO pred\_bat: Inverter 0 Wrote scheduled\_discharge\_enable to False successfully and got off

2024-06-22 15:30:34.581867 INFO pred\_bat: Inverter 0  
sensor.predbat\_SX4\_0\_scheduled\_discharge\_enable set to False  
2024-06-22 15:30:34.583091 INFO pred\_bat: Inverter 0 scheduled discharge enable  
is False  
2024-06-22 15:30:34.584285 INFO pred\_bat: Inverter 0 discharge windows currently  
[{'start': 0, 'end': 0, 'average': 0}, {'start': 1440, 'end': 1440, 'average': 0}]  
2024-06-22 15:30:34.585266 INFO pred\_bat: Note: Inverter does not support  
discharge freeze - disabled  
2024-06-22 15:30:34.586005 INFO pred\_bat: Note: Inverter does not support charge  
freeze - disabled  
2024-06-22 15:30:34.586759 INFO pred\_bat: Note: Inverter does not support  
reserve - disabling reserve functions  
2024-06-22 15:30:34.587625 INFO pred\_bat: Found 1 inverters totals: min reserve  
1.74 current reserve 1.74 soc\_max 17.4 soc 17.05 charge rate 2.6 kW discharge  
rate 2.6 kW battery\_rate\_min 0.0 w ac limit 8.0 export limit 8.0 kW loss charge 5 %  
loss discharge 5 % inverter loss 2 %  
2024-06-22 15:30:34.635125 INFO pred\_bat: Base charge window [ 22-06  
15:00:00 - 22-06 16:00:00 @ 0p 100%, 23-06 15:00:00 - 23-06 16:00:00 @ 0p  
100%, 24-06 15:00:00 - 24-06 16:00:00 @ 0p 100% ]  
2024-06-22 15:30:34.636078 INFO pred\_bat: Base discharge window [ 22-06  
00:00:00 - 22-06 00:00:00 @ 0p 100.0%, 23-06 00:00:00 - 23-06 00:00:00 @ 0p  
100.0% ]  
2024-06-22 15:30:34.636822 INFO pred\_bat: Include original charge start 06-22  
15:00:00, keeping this instead of new start 06-22 15:30:00  
2024-06-22 15:30:34.637586 INFO pred\_bat: Charge window will be: 2024-06-22  
15:00:00+01:00 - 2024-06-22 16:00:00+01:00 - current soc 98 target 100  
2024-06-22 15:30:34.638432 INFO pred\_bat: Inverter 0 current charge rate is  
2600.0 and new target is 8000  
2024-06-22 15:30:34.639274 INFO pred\_bat: Inverter 0 current discharge rate is  
2600.0 and new target is 0  
2024-06-22 15:30:34.640109 INFO pred\_bat: Configuring charge window now (now  
06-22 15:30:00 target set\_window\_minutes 30 charge start time 06-22 15:00:00  
2024-06-22 15:30:34.641108 INFO pred\_bat: Adjust idle time, charge  
15:00:00-16:00:00 discharge 00:00:00-00:00:00  
2024-06-22 15:30:34.642139 INFO pred\_bat: Adjust idle time computed idle is  
16:00:00-23:59:00  
2024-06-22 15:30:34.643359 INFO pred\_bat: Setting ECO mode as no discharge  
window planned  
2024-06-22 15:30:34.644695 INFO pred\_bat: Inverter 0 Adjust force discharge to  
False, change times from 00:00:00 - 00:00:00 to 00:00:00 - 00:00:00  
2024-06-22 15:30:34.645880 INFO pred\_bat: Adjust idle time, charge  
15:00:00-16:00:00 discharge 00:00:00-00:00:00  
2024-06-22 15:30:34.647194 INFO pred\_bat: Adjust idle time computed idle is  
16:00:00-23:59:00  
2024-06-22 15:30:34.648468 INFO pred\_bat: Inverter 0 Current Target SOC is 100  
already at target  
2024-06-22 15:30:34.649985 INFO pred\_bat: Current SOC 98% is less than Target  
SOC 100. Grid charging enabled with charge current set to 65.00  
2024-06-22 15:30:34.710481 INFO pred\_bat: Completed run status Charging  
2024-06-22 15:30:35.320086 INFO pred\_bat: Info: record\_status Charging target

98%-100%