



Soapi SOLAR

**Typical
Improvement
In Solar Yield
When PV Panels
Are Cleaned**

**CASE STUDY
04/09/2023**



**PV PANEL CLEANING IN
PROGRESS**

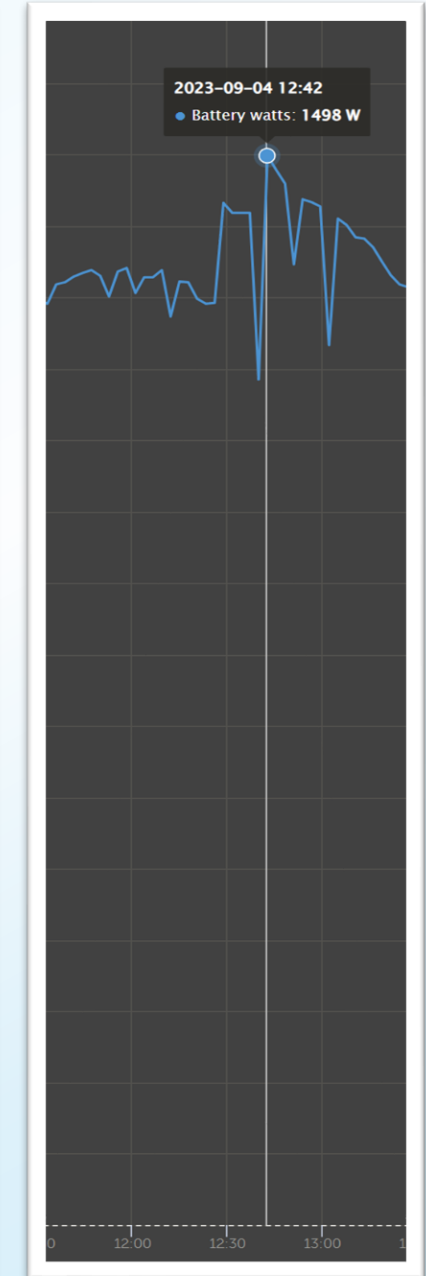
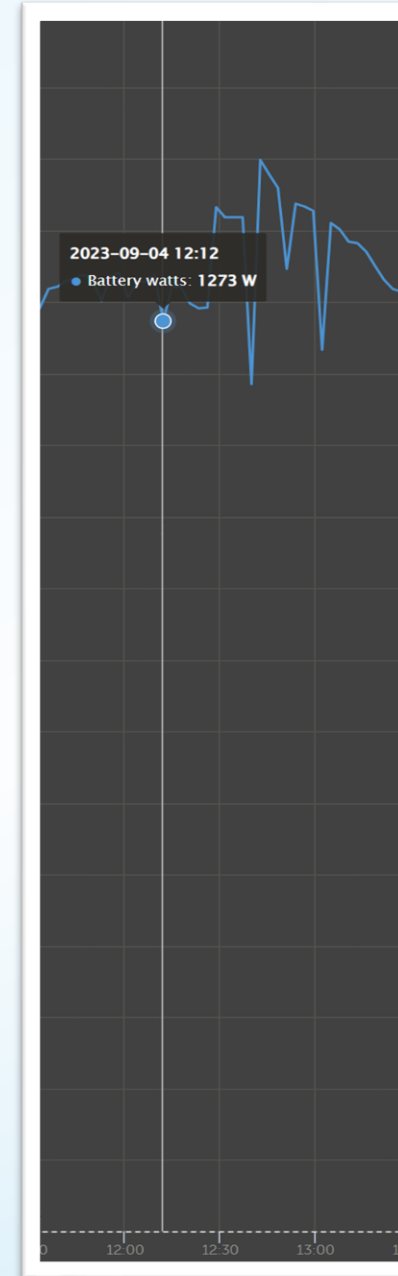
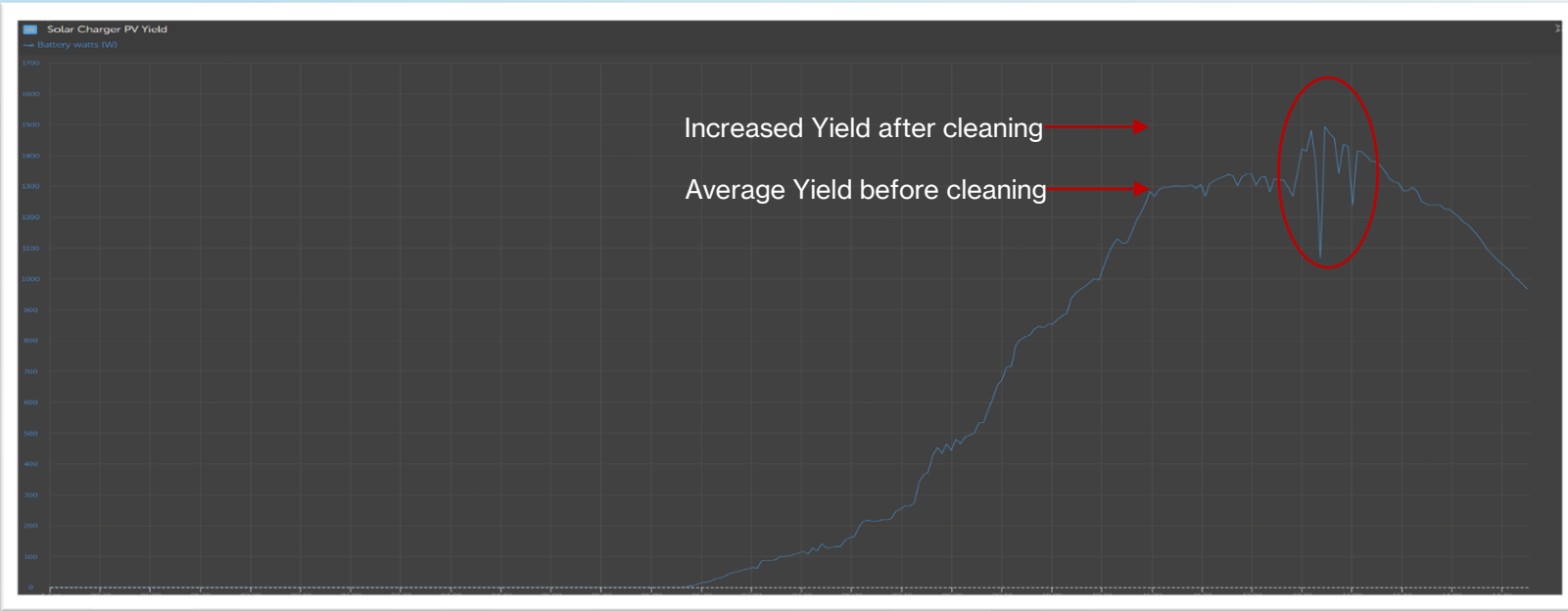




**PV PANEL CLEANING IN
PROGRESS**



PV ARRAY 1 - NORTH FACING



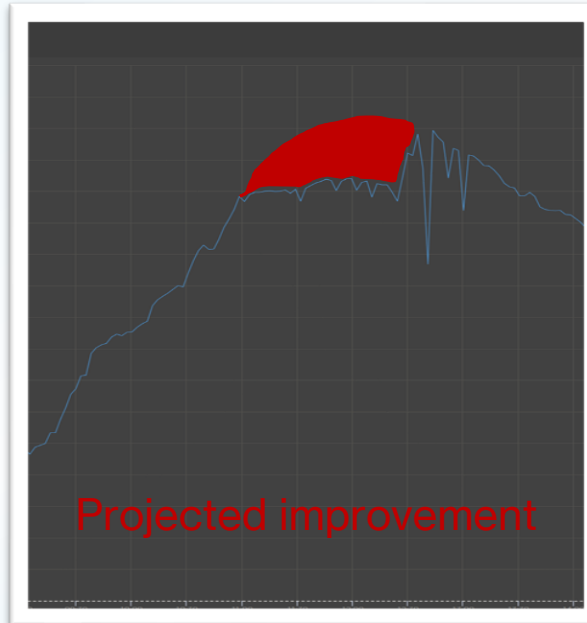
Yield just before cleaning @ 12 H 12 : 1273 Watt
 Yield just after cleaning @ 12 H 24 : 1498 Watt
 Improvement in Watt : 225 Watt
 Improvement % wise : 15 %

Please note:

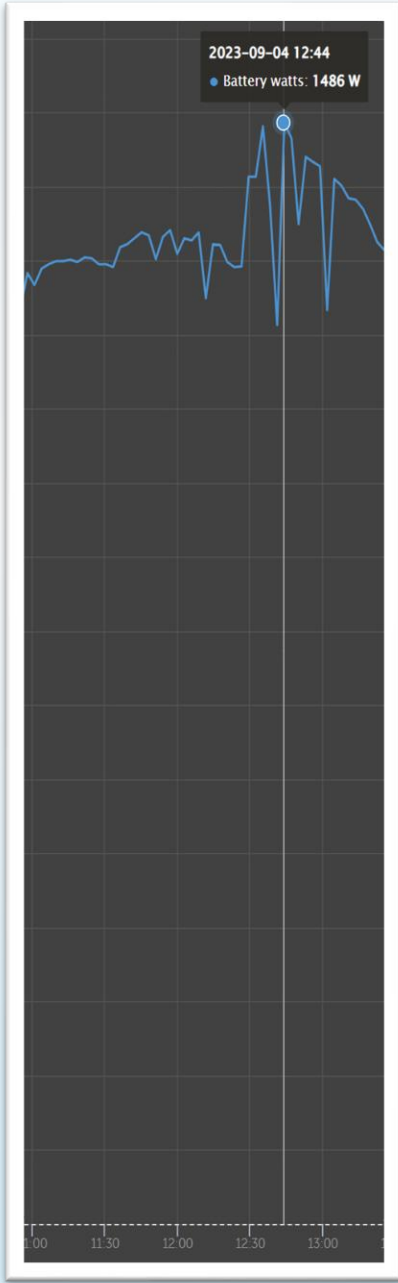
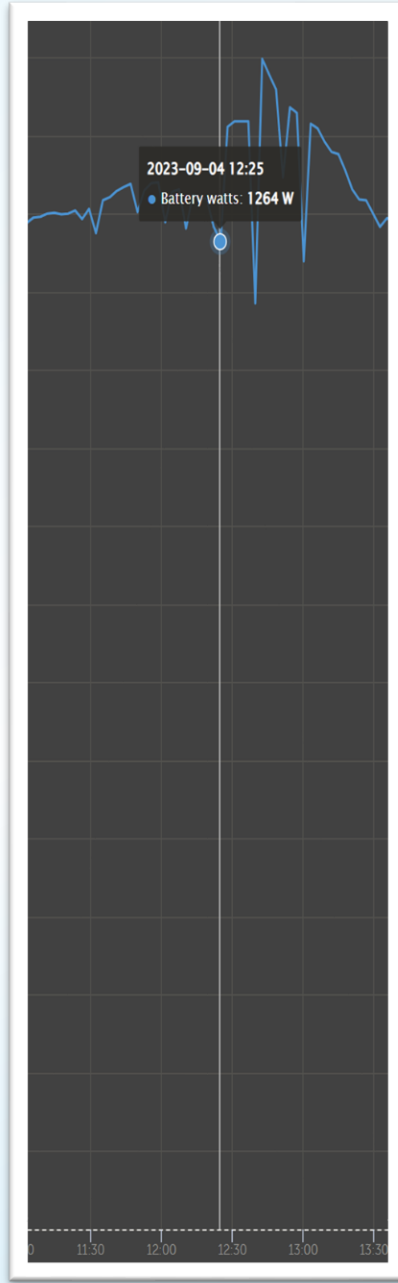
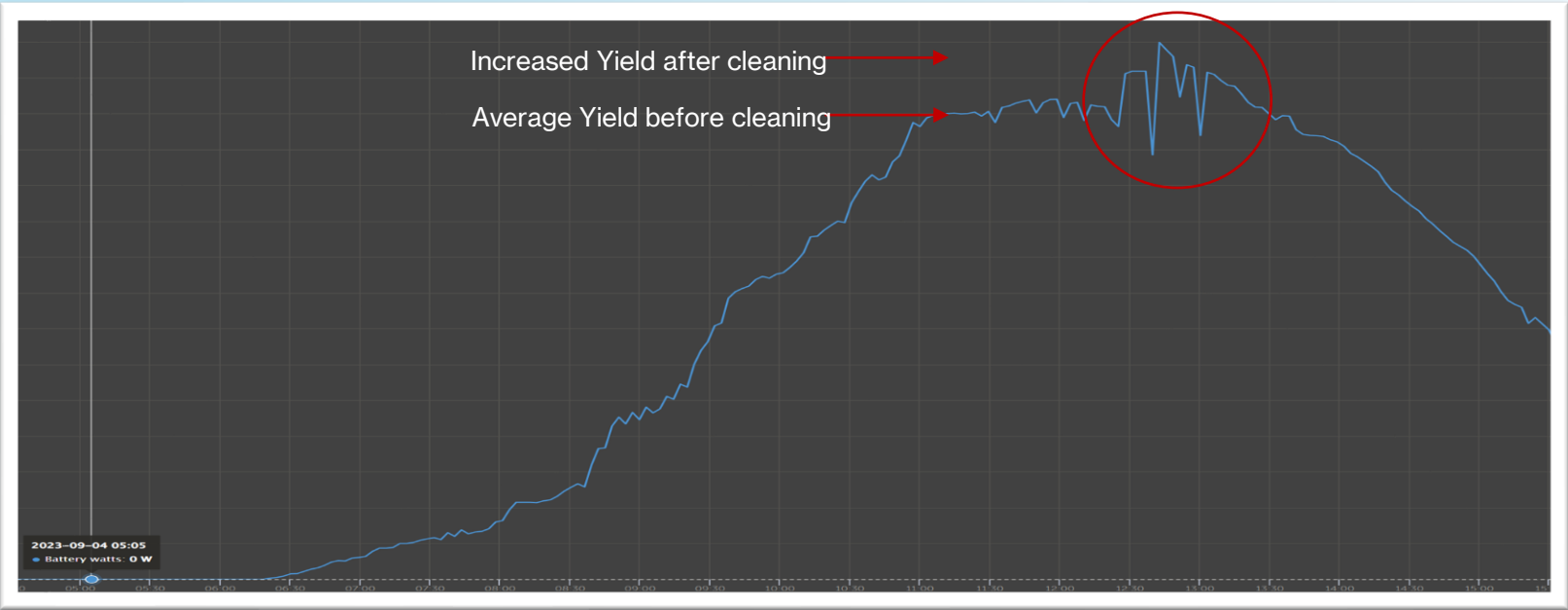
- The power sampling in this recordings was done at 5-minute intervals and the deep dips are the results of shading caused by the cleaning person.

12-year-old PV array facing North - DC coupled MPPT

Cleaned by using a soft brush and particle free water – no soap.



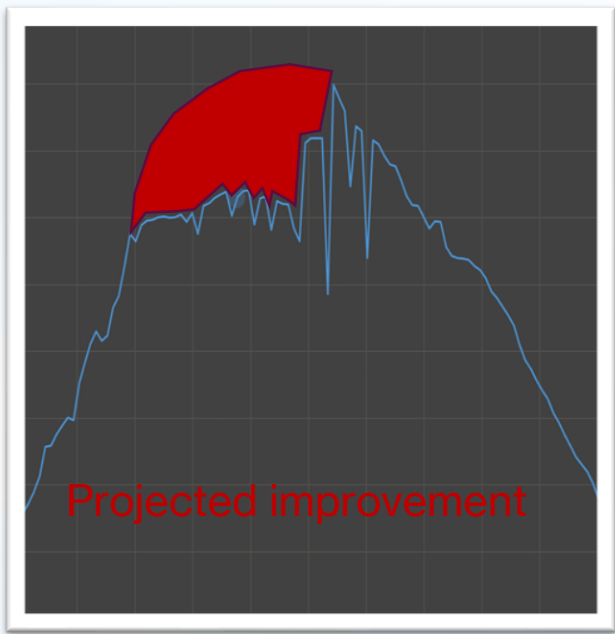
PV ARRAY 2 - EAST FACING



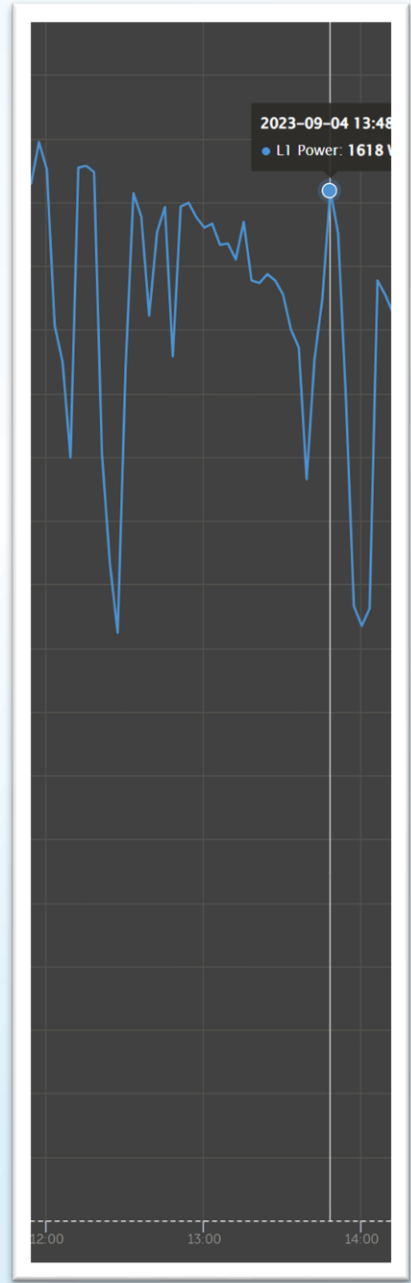
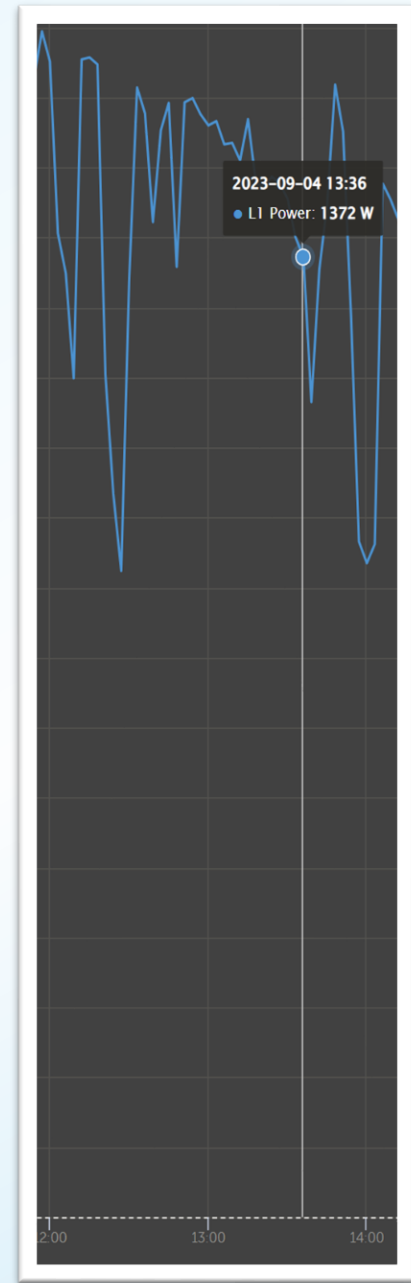
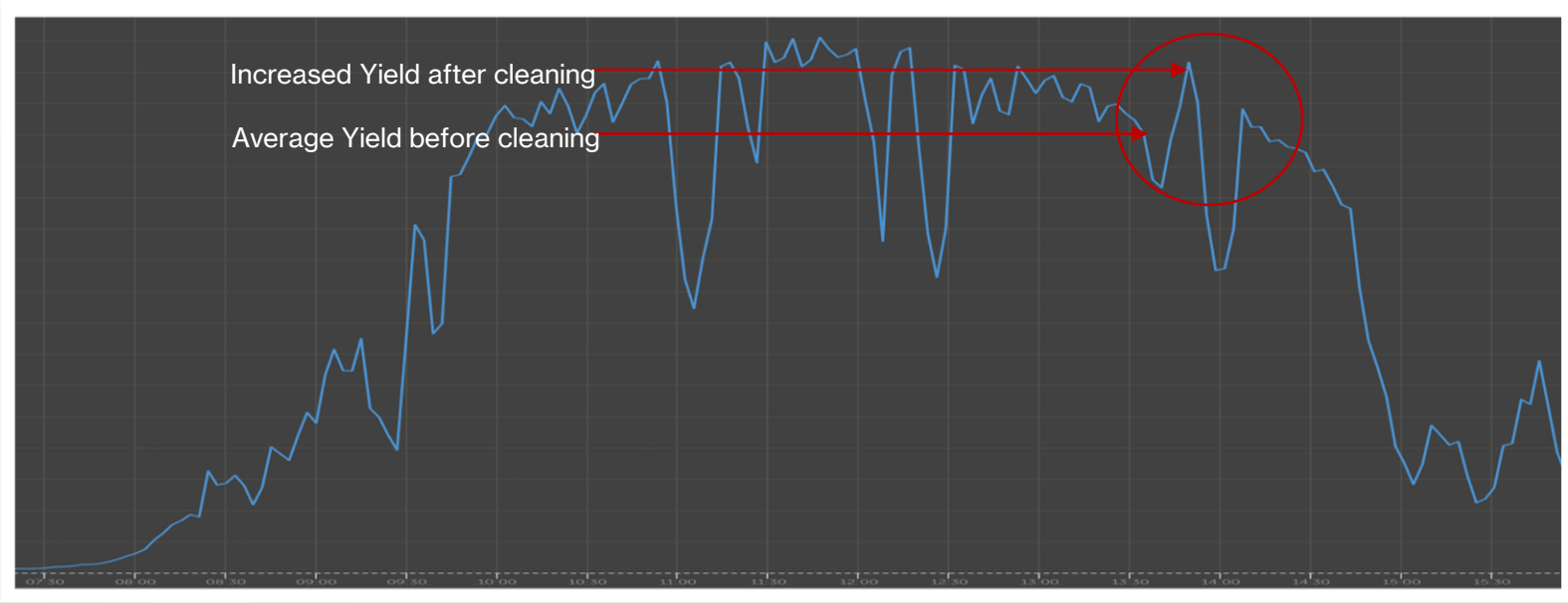
Yield just before cleaning @ 12 H 25 : 1264 Watt
 Yield just after cleaning @ 12 H 44 : 1486 Watt
 Improvement in Watt : 222 Watt
 Improvement % wise : 14.9 %

Please note:
 • The power sampling in this recordings was done at 5-minute intervals and the deep dips are the results of shading caused by the cleaning person.

12-year-old PV array facing East - DC coupled MPPT
 Cleaned by using a soft brush and particle free water – no soap.



PV ARRAY 3 - NORTH FACING



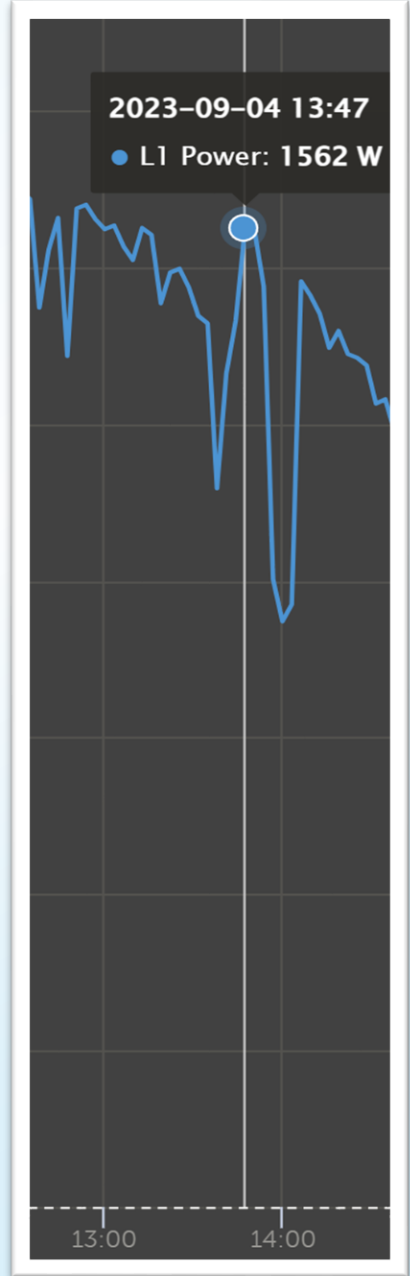
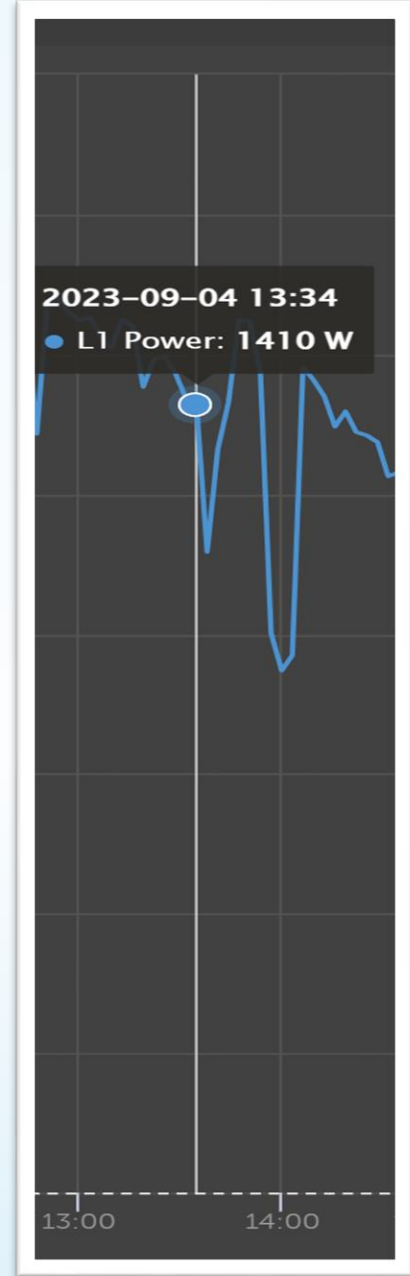
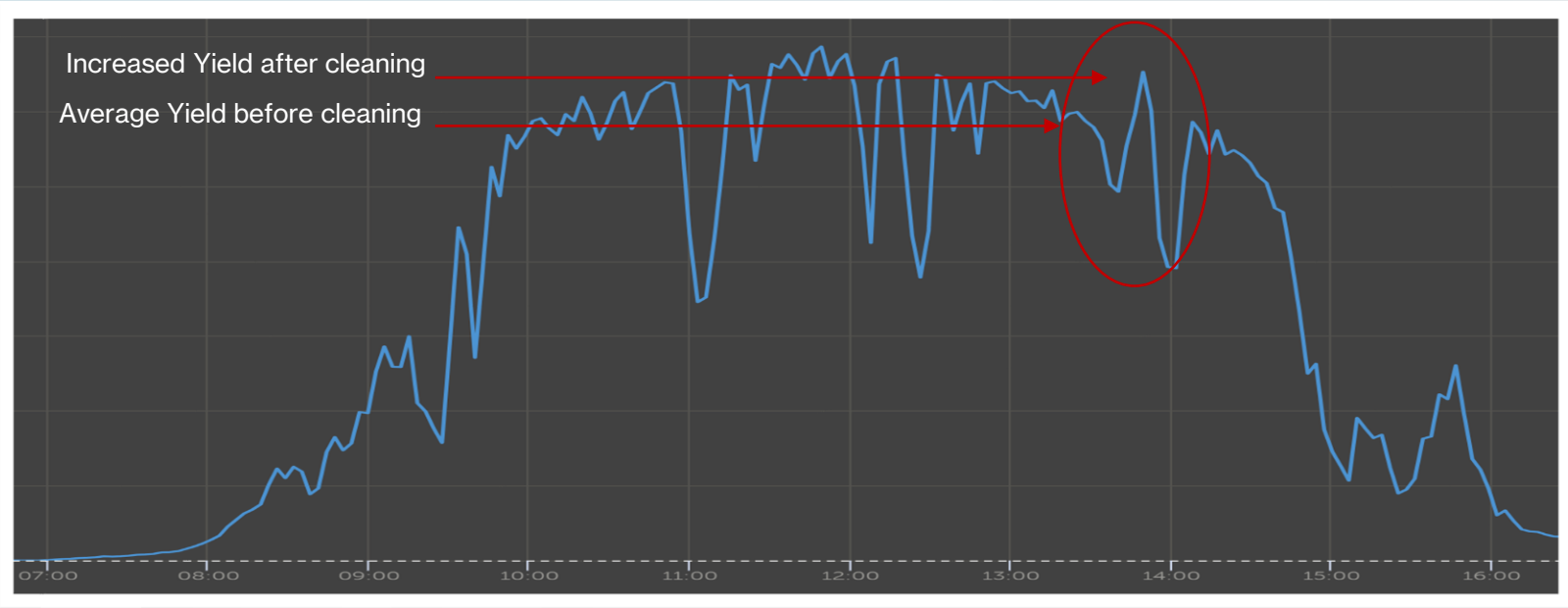
Yield just before cleaning @ 13 H 30 : 1372 Watt
 Yield just after cleaning @ 13 H 48 : 1618 Watt
 Improvement in Watt : 246 Watt
 Improvement % wise : 15.2 %

Please note:
 • The power sampling in this recordings was done at 5-minute intervals and the deep dips are the results of shading caused by the cleaning person.

12-year-old array facing North - DC coupled MPPT
 Cleaned by using a soft brush and particle free water – no soap.



PV ARRAY 4 - NORTH FACING

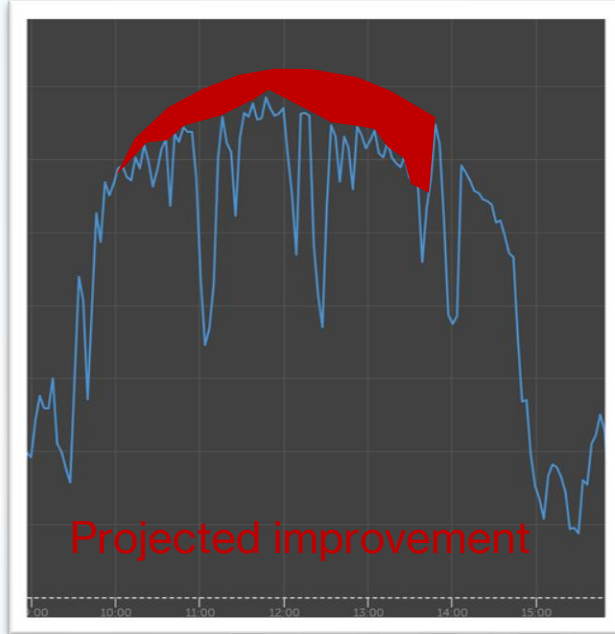


Yield just before cleaning @ 13 H 34 : 1410 Watt
 Yield just after cleaning @ 13 H 47 : 1562 Watt
 Improvement in Watt : 246 Watt
 Improvement % wise : 9.7 %

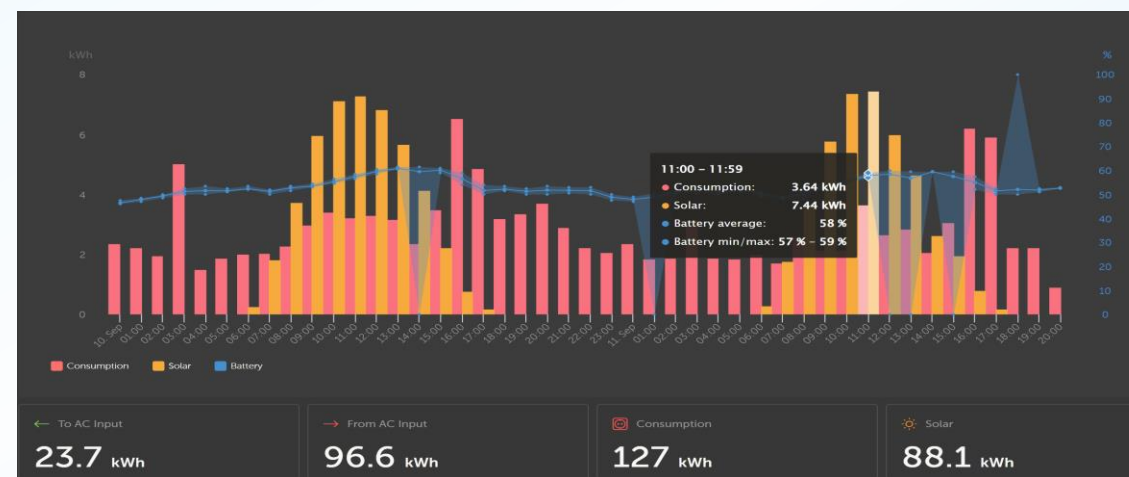
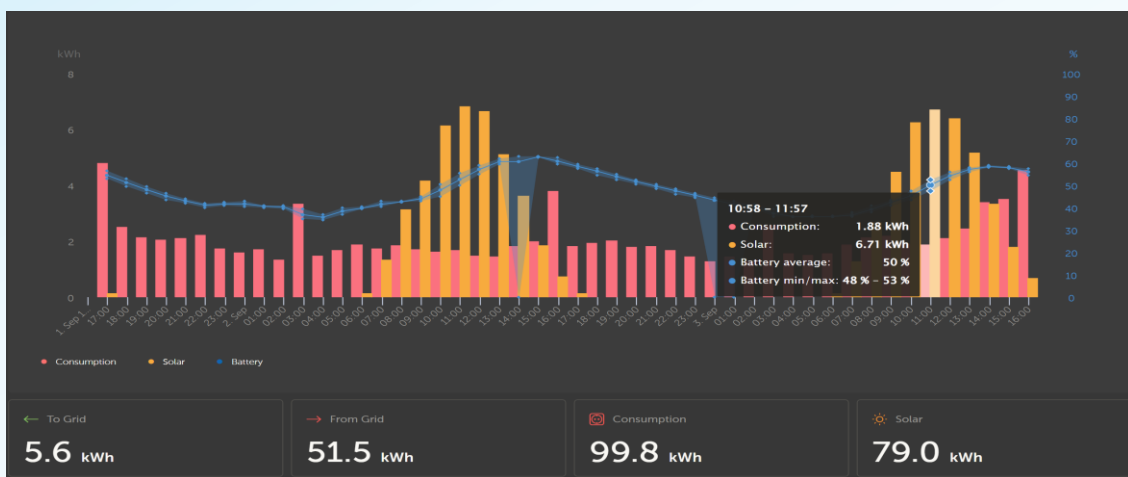
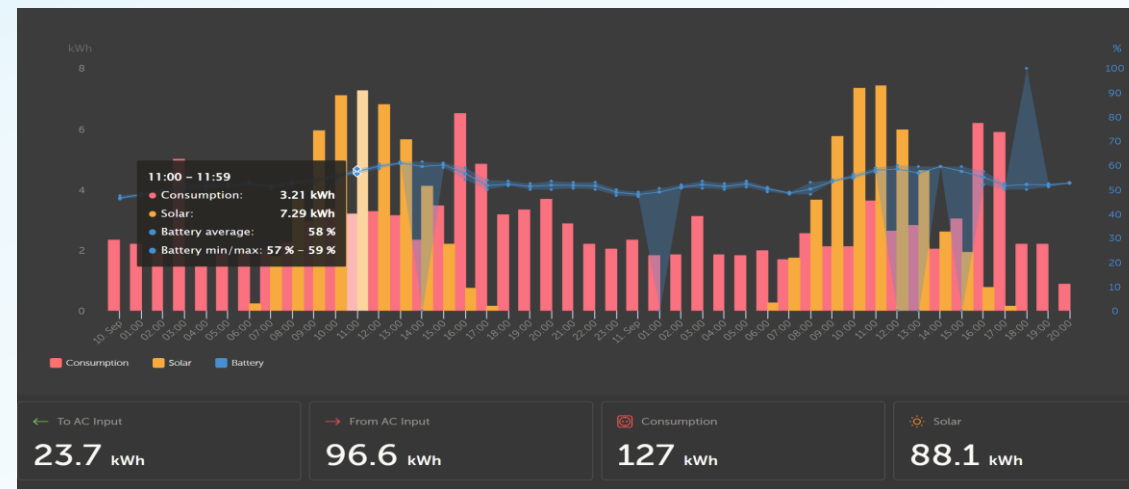
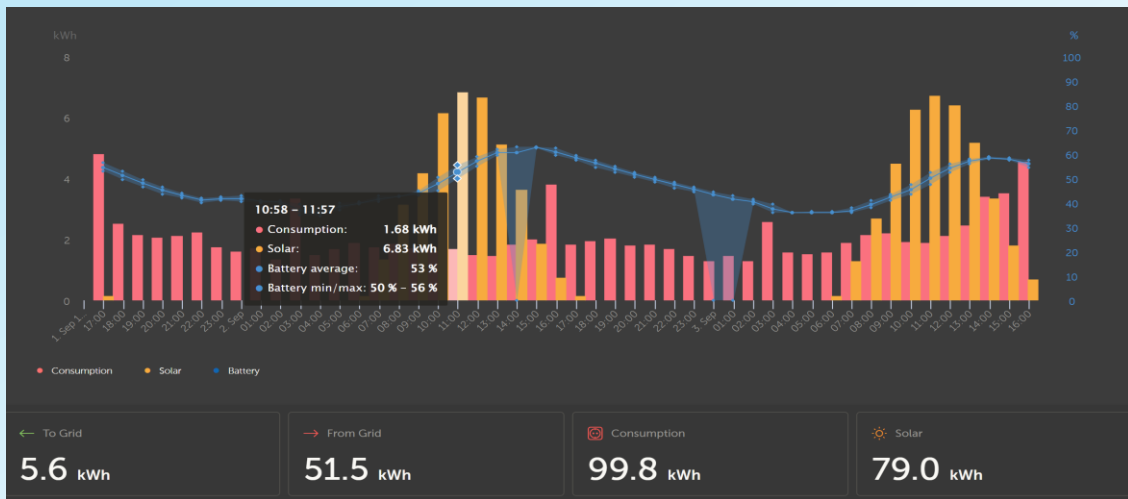
- Please note:**
- This measurement was done at a time when shading from a palm tree was setting in, thus not a good example.
 - The power sampling in this recordings was done at 5-minute intervals and the deep dips are the results of shading caused by the cleaning person.

10-year-old array facing North - AC coupled Grid Tied Inverter

Cleaned by by using a soft brush and particle free water – no soap



IMPROVEMENT IN DAILY YIELD MEASURED OVER A 2 DAY PERIOD BEFORE AND AFTER CLEANING



The peak power - around mid day - for the total PV array **2 days PRIOR to cleaning** the panels was **6.83 kWH** and **6.71 kWH** respectively.

79 kWH_{total} measured over 2 days.

The peak power - around mid day - for the total PV array **2 days AFTER cleaning** the panels was **7.29 kWH** and **7.44 kWH** respectively.

88.1 kWH_{total} measured over 2 days.