Daily Energy Generation Report on 2019-11-27

Weather Conditions

Sunlight Hours: 14

Average Temperature: 23.85°C

Average Wind Speed: 5.27 m/s

Most Frequent Wind Direction: 0°

Total Rainfall: 30239.25 mm

Air Quality Data:

- Average PM1: 2.31 µg/m³
- Average PM2.5: 0.08 µg/m³
- Average PM4: 0.00 µg/m³
- Average PM10: 0.00 µg/m³
- Average Particulate Concentration: 0.45 particle/m³

Energy Generation Data

Total Energy Generated AC: 21.60 kWh

Total Energy Generated DC: 22.02 kWh

Conversion Efficiency Rate: 98.10%

Peak hour: 2019-11-27 08:00:00: 3.64 kWh

Hourly Energy Generation:

['00:00: 0.00 kWh', '04:00: 0.00 kWh', '05:00: 0.44 kWh', '06:00: 1.31 kWh', '07:00: 3.07 kWh', '08:00: 3.64 kWh', '09:00: 3.29 kWh', '10:00: 2.61 kWh', '11:00: 2.63 kWh', '12:00: 1.10 kWh', '13:00: 1.20 kWh', '14:00: 1.05 kWh', '15:00: 0.75 kWh', '16:00: 0.39 kWh', '17:00: 0.12 kWh', '18:00: 0.00 kWh', '19:00: 0.00 kWh', '20:00: 0.00 kWh', '21:00: 0.00 kWh', '22:00: 0.00 kWh', '23:00: 0.00 kWh']:

Environmental Impact

Environmental Impact:The air quality data indicates excellent air quality with very low levels of PM1, PM2.5, PM4, PM10, and particulate matter concentration. This suggests that the energy generation system is contributing to a cleaner environment.

CO2 Savings: 16.37 kg

Alerts and Notifications

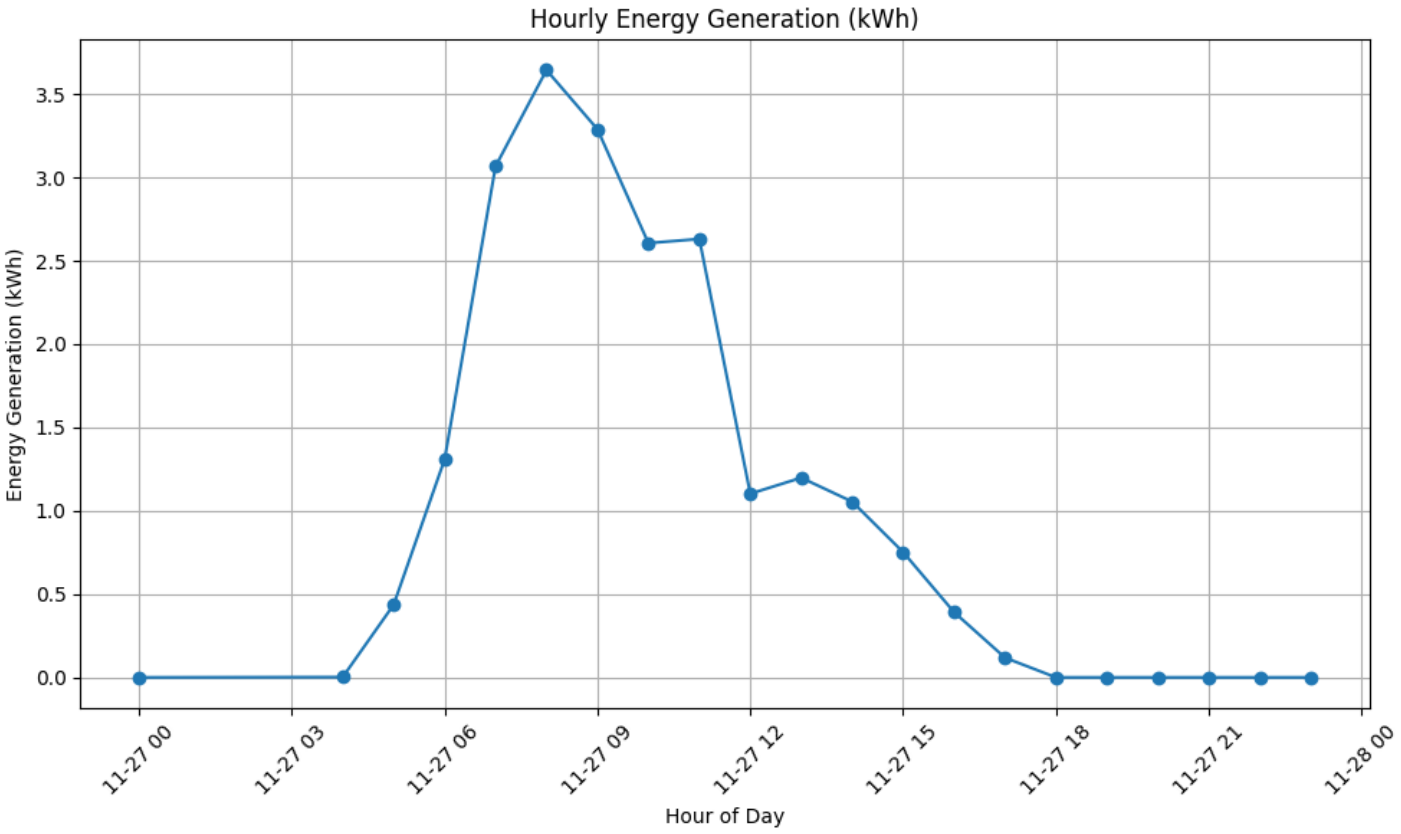
Performance Alerts: No information.

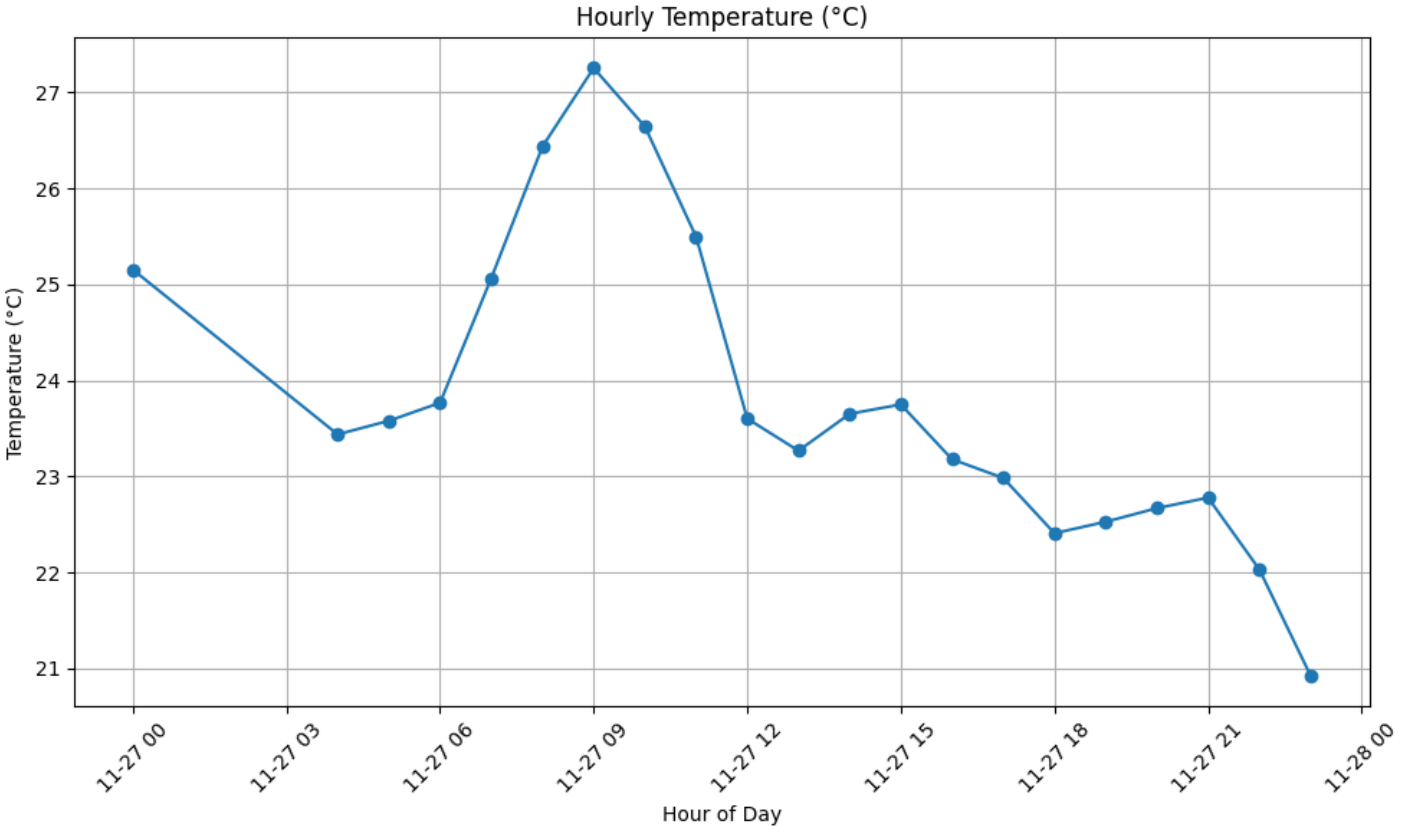
Weather Warnings: No information.

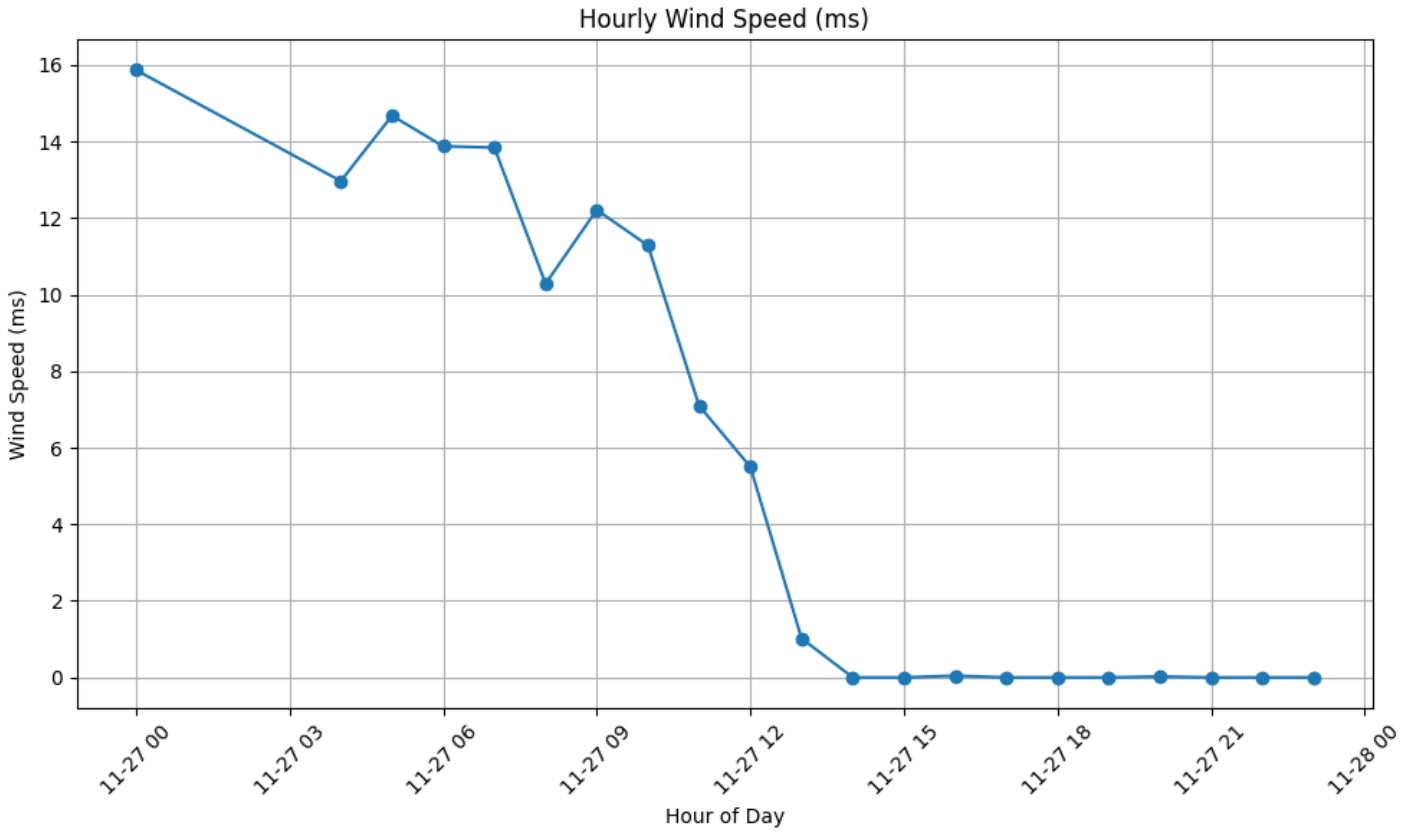
Summary and Recommendations

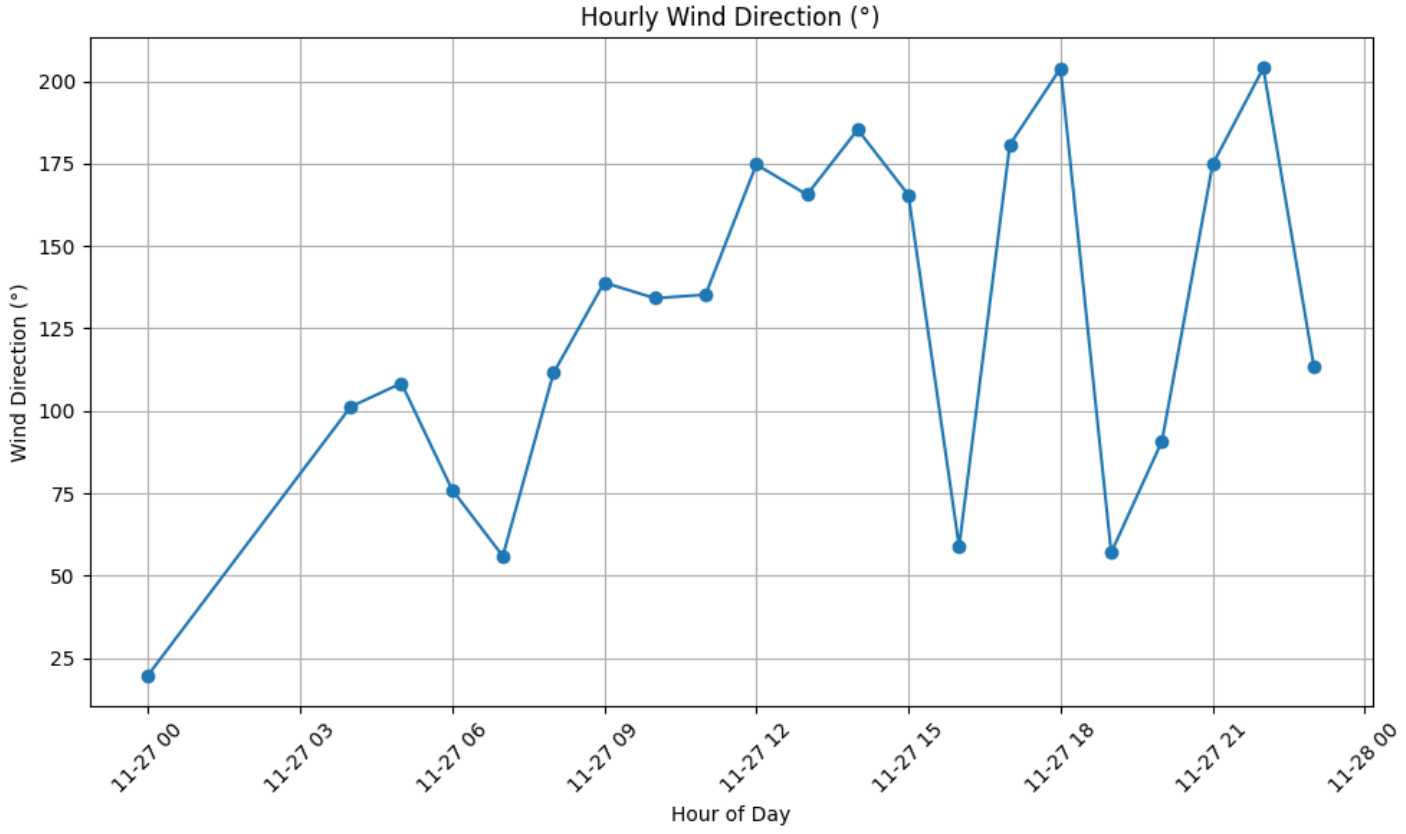
Summary: On November 27, 2019, the system generated 21.60 kWh of AC energy and 22.02 kWh of DC energy, with a conversion efficiency rate of 98.10%. The peak hour was at 08:00 with 3.64 kWh generated. The day experienced 14 hours of sunlight and an average temperature of 23.85°C. However, the total rainfall of 30239.25 mm is an unusually high amount, and likely significantly impacted energy generation.

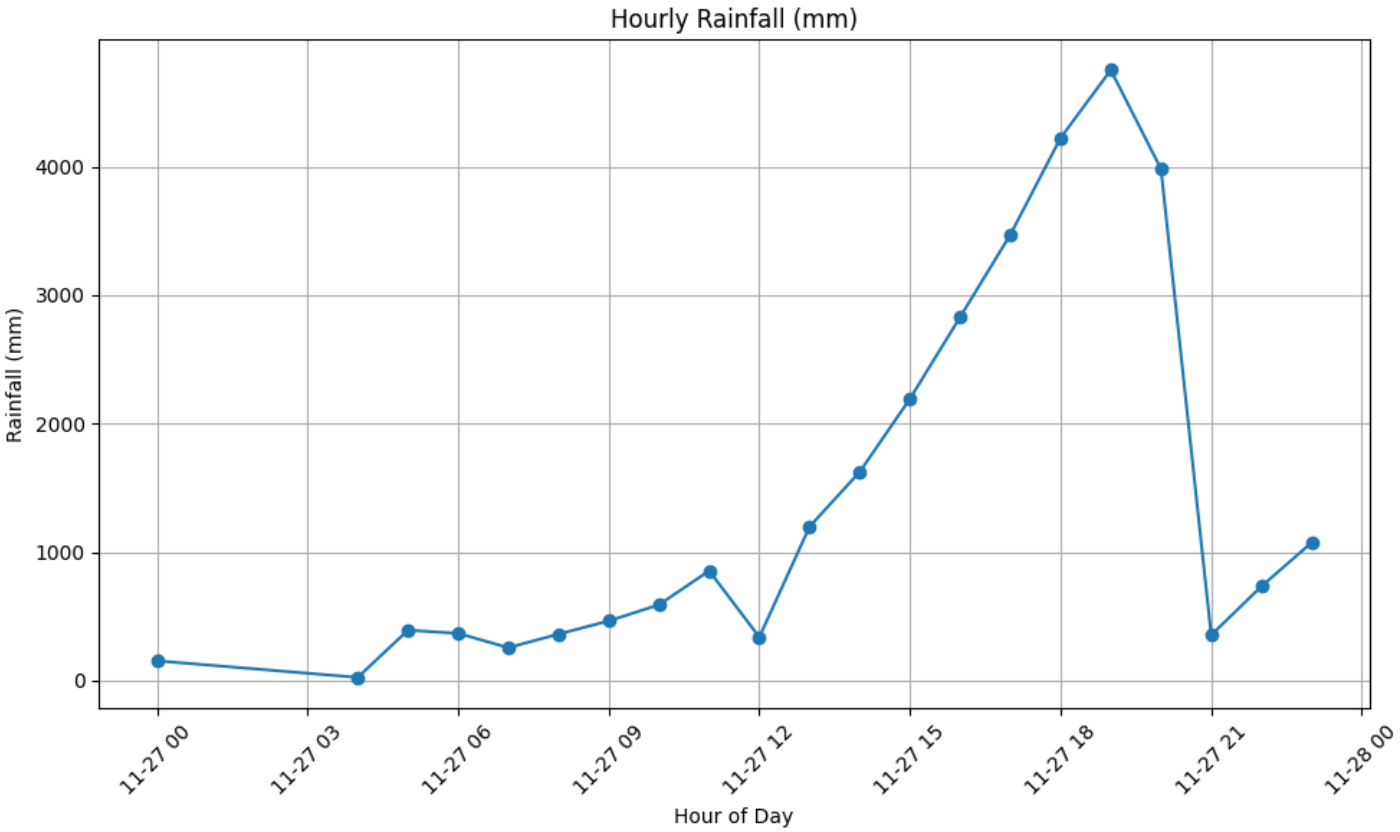
Recommendations: The unusually high rainfall on November 27, 2019, may have significantly affected energy generation. It is recommended to investigate if the system's performance was impacted by the weather conditions and implement measures to mitigate such impacts in the future. Additionally, with the excellent air quality, the system is contributing positively to the environment, and further efforts to minimize environmental impact should be explored.

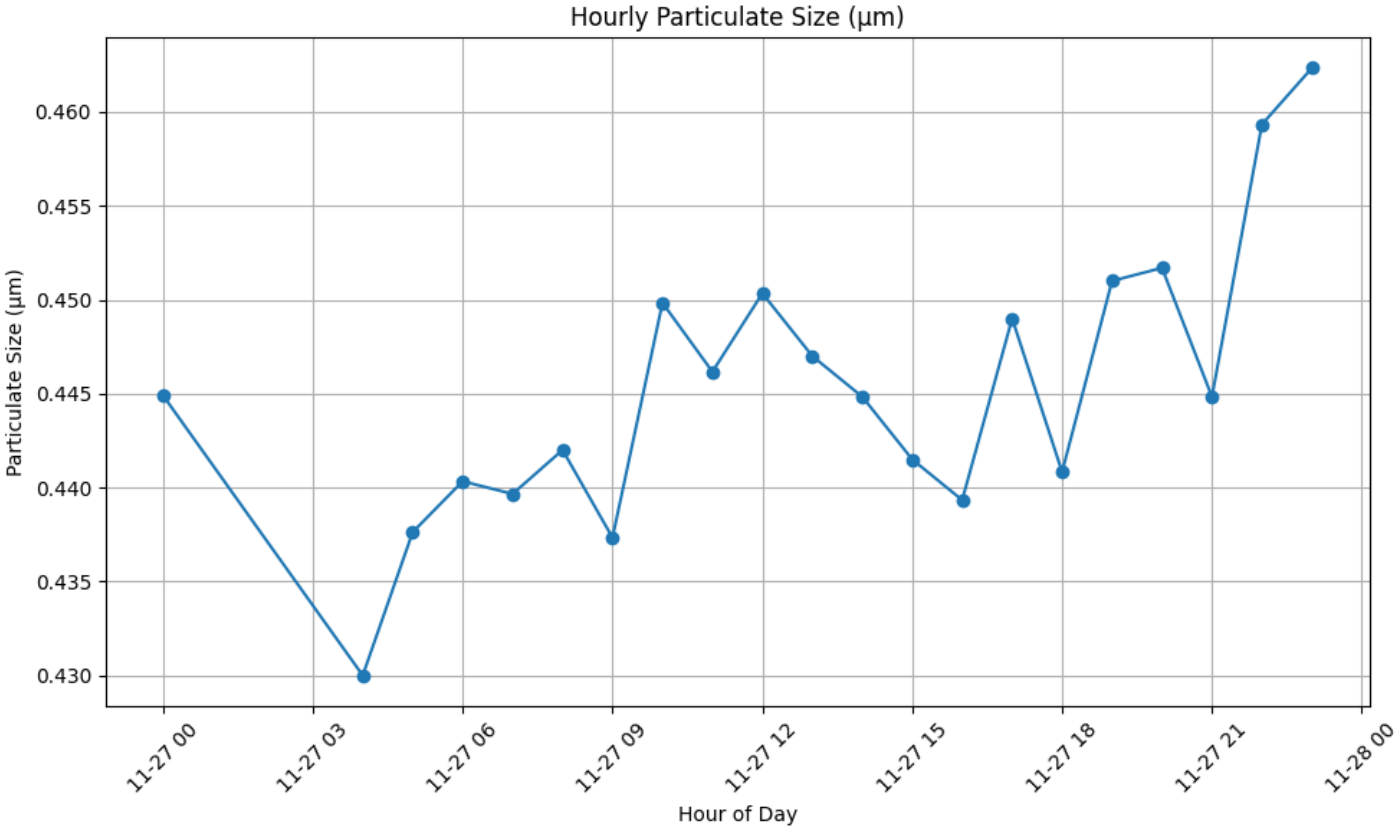

Hourly Energy Generation (kWh)
Energy Generation (kWh)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
11-27 00
11-27 03
11-27 06
11-27 09
11-27 12
11-27 15
11-27 18
11-27 21
11-28 00
Hour of Day


Hourly Temperature (°C)
Temperature (°C)
21
22
23
24
25
26
27
11-27 00
11-27 03
11-27 06
11-27 09
11-27 12
11-27 15
11-27 18
11-27 21
11-28 00
Hour of Day


Hourly Wind Speed (ms)
Wind Speed (ms)
16
14
12
10
8
6
4
2
0
11-27 00
11-27 03
11-27 06
11-27 09
11-27 12
11-27 15
11-27 18
11-27 21
11-28 00
Hour of Day


Hourly Wind Direction (°)
Wind Direction (°)
200
175
150
125
100
75
50
25
11-27 00
11-27 03
11-27 06
11-27 09
11-27 12
11-27 15
11-27 18
11-27 21
11-28 00
Hour of Day


Hourly Rainfall (mm)
Rainfall (mm)
4000
3000
2000
1000
0
11-27 00
11-27 03
11-27 06
11-27 09
11-27 12
11-27 15
11-27 18
11-27 21
11-28 00
Hour of Day


Hourly Particulate Size (µm)
Particulate Size (µm)
0.460
0.455
0.450
0.445
0.440
0.435
0.430
11-27 00
11-27 03
11-27 06
11-27 09
11-27 12
11-27 15
11-27 18
11-27 21
11-28 00
Hour of Day