Daily Energy Generation Report on 2019-11-20

Weather Conditions

Sunlight Hours: 14

Average Temperature: 29.73°C

Average Wind Speed: 5.75 m/s

Most Frequent Wind Direction: 135°

Total Rainfall: 0.00 mm

Air Quality Data:

- Average PM1: 3.49 µg/m³
- Average PM2.5: 0.12 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: 62.30 kWh

Total Energy Generated DC: 63.38 kWh

Conversion Efficiency Rate: 98.29%

Peak hour: 2019-11-20 11:00:00: 8.28 kWh

Hourly Energy Generation:

['00:00: 0.00 kWh', '01:00: 0.00 kWh', '02:00: 0.00 kWh', '03:00: 0.00 kWh', '04:00: 0.01 kWh', '05:00: 0.41 kWh', '06:00: 2.13 kWh', '07:00: 4.42 kWh', '08:00: 6.12 kWh', '09:00: 7.31 kWh', '10:00: 8.08 kWh', '11:00: 8.28 kWh', '12:00: 7.84 kWh', '13:00: 7.40 kWh', '14:00: 5.80 kWh', '15:00: 3.43 kWh', '16:00: 0.91 kWh', '17:00: 0.17 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 clean energy generated on this day contributed to improved air quality by reducing greenhouse gas emissions, promoting a healthier environment.

CO2 Savings: 47.22 kg

Alerts and Notifications

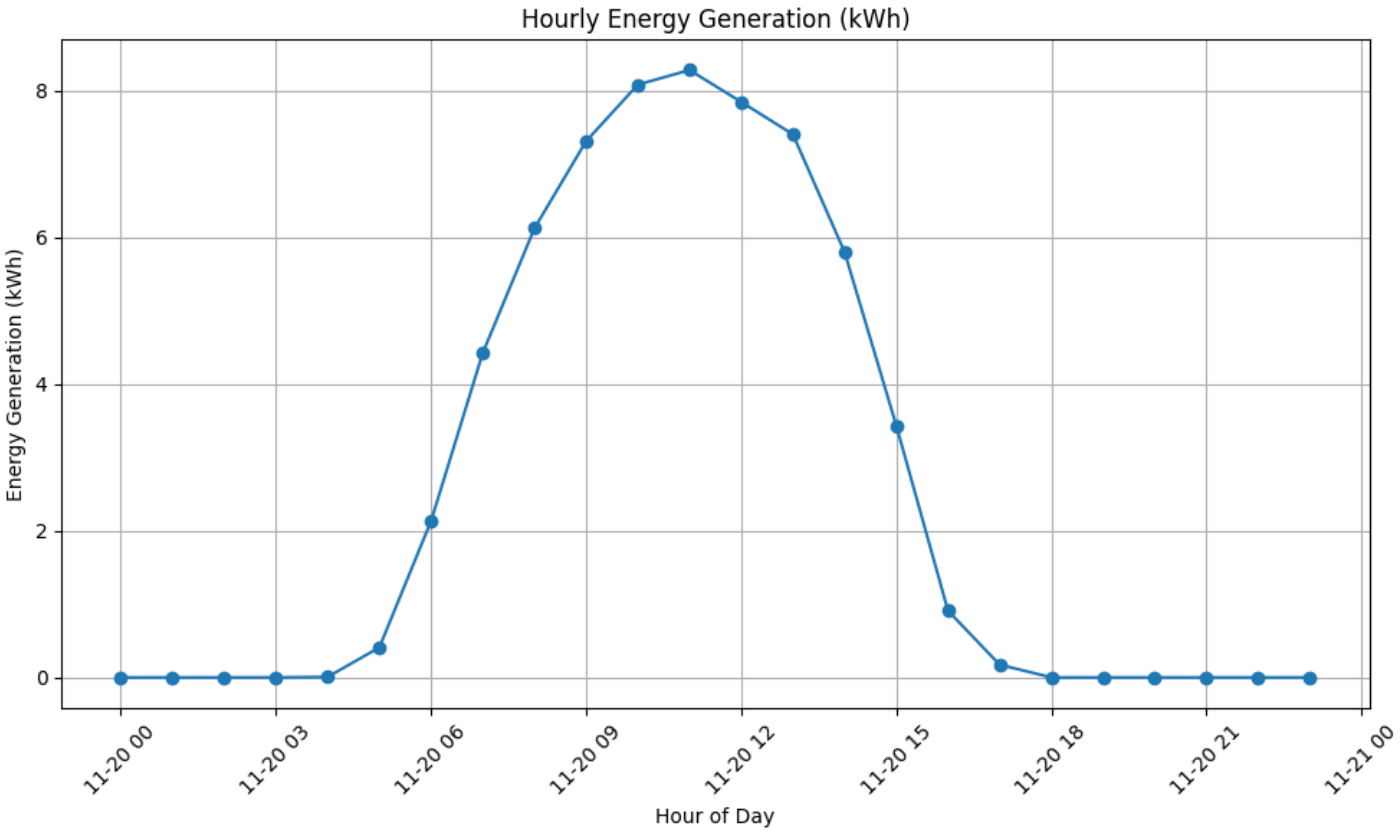
Performance Alerts: No performance alerts were reported for this date.

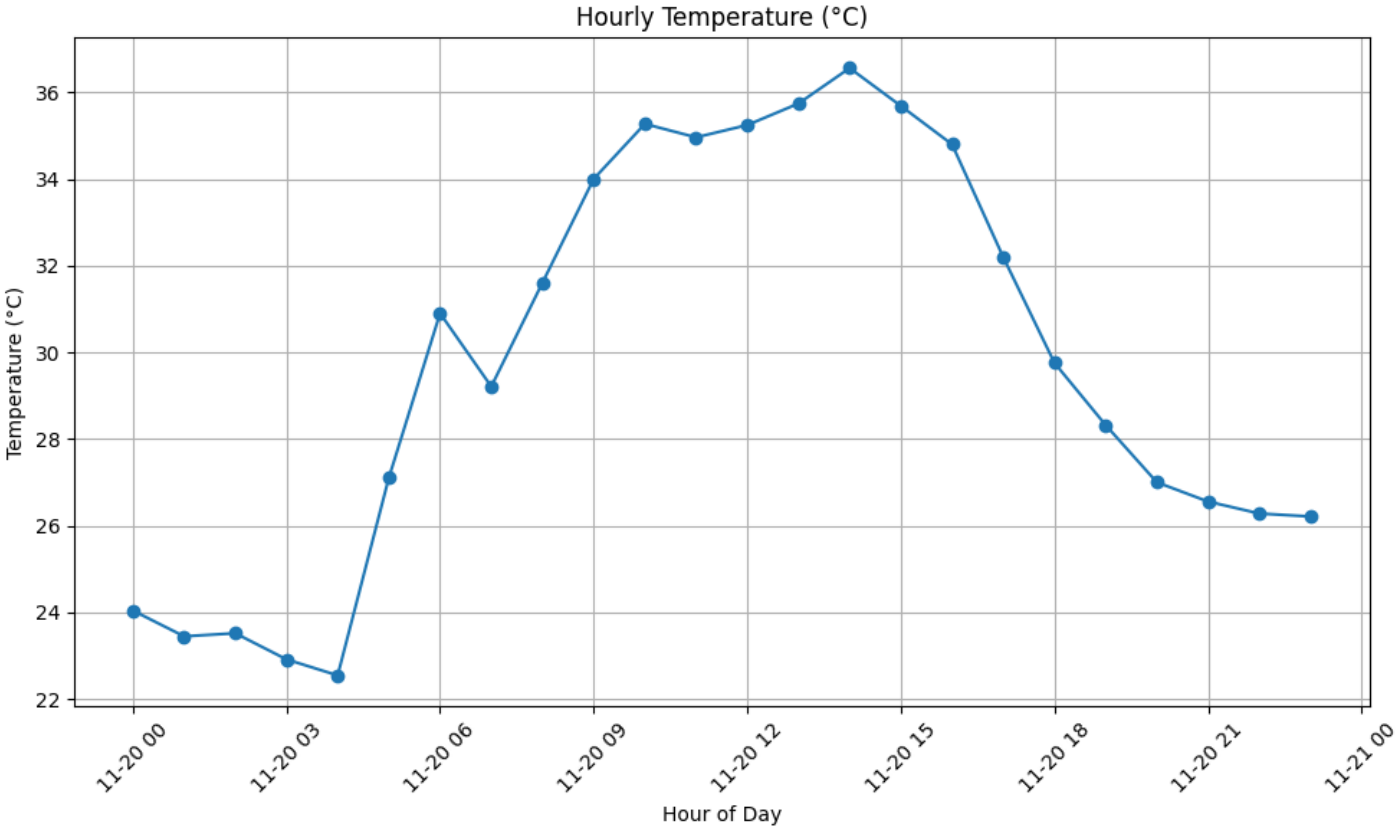
Weather Warnings: No weather warnings were reported for this date.

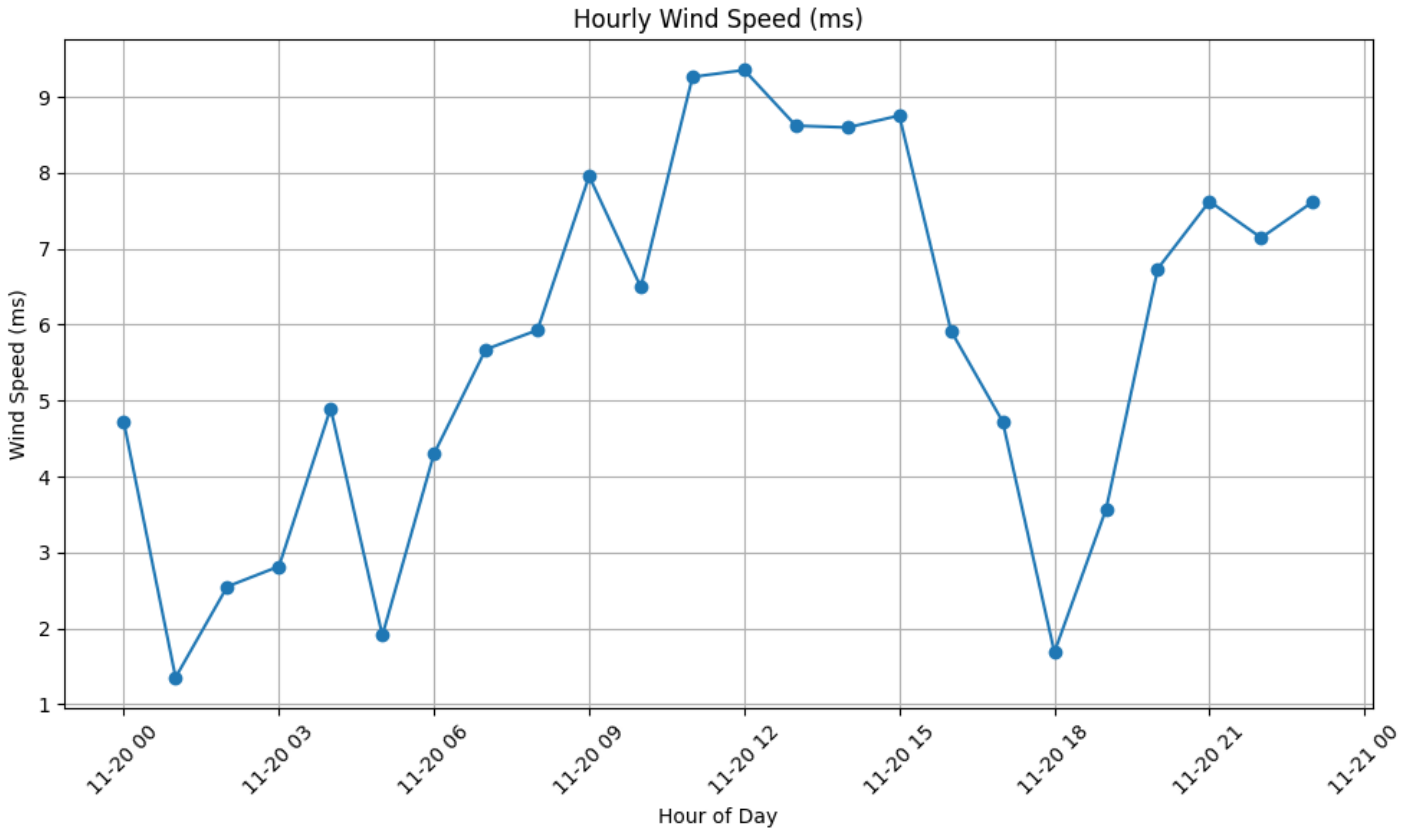
Summary and Recommendations

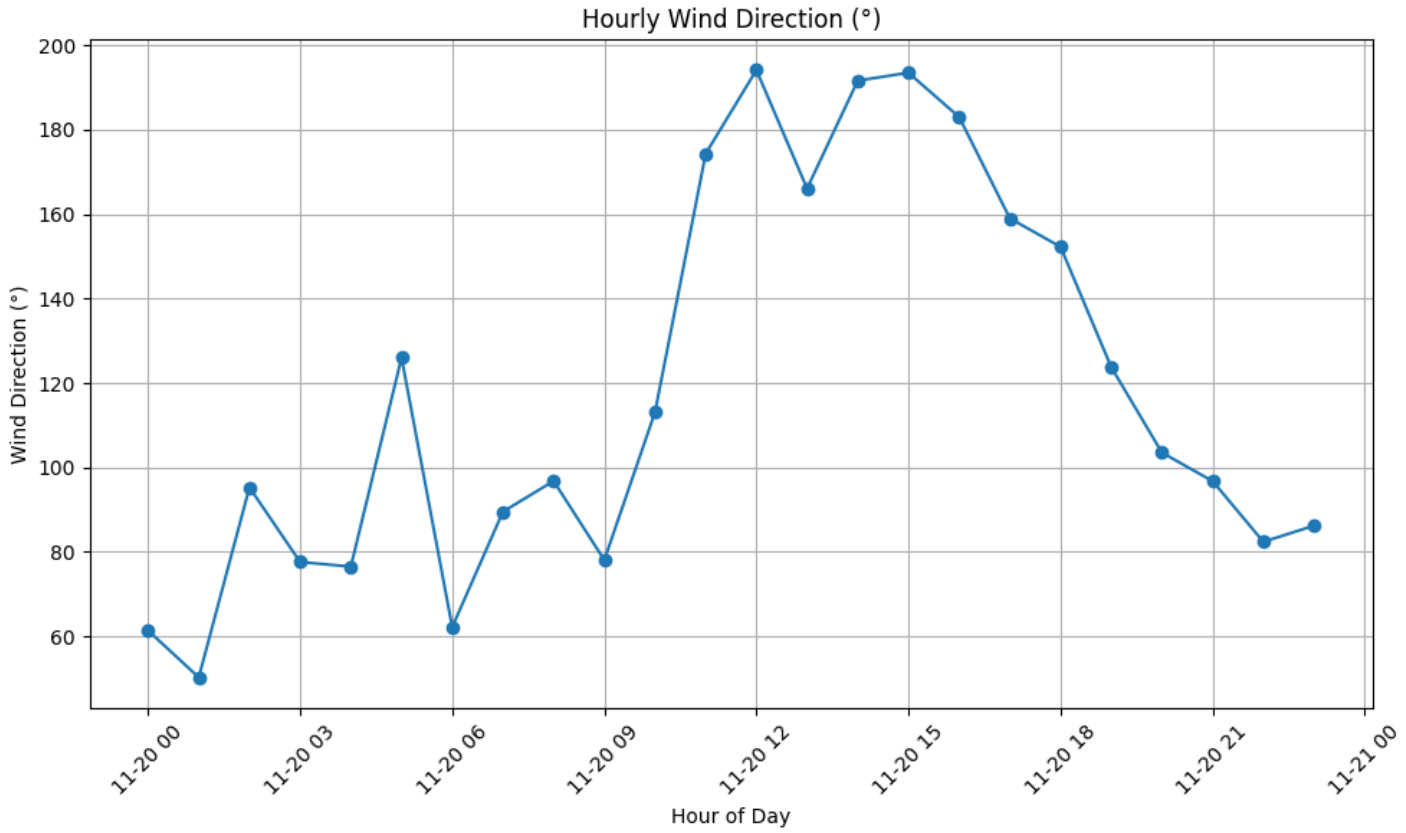
Summary: On November 20, 2019, the energy generation system produced a total of 62.30 kWh of AC energy and 63.38 kWh of DC energy with a conversion efficiency rate of 98.29%. The peak hour of energy generation occurred at 11:00:00, producing 8.28 kWh. The day was characterized by clear skies, a high average temperature of 29.73°C, and an average wind speed of 5.75 m/s. Air quality was excellent with low particulate levels.

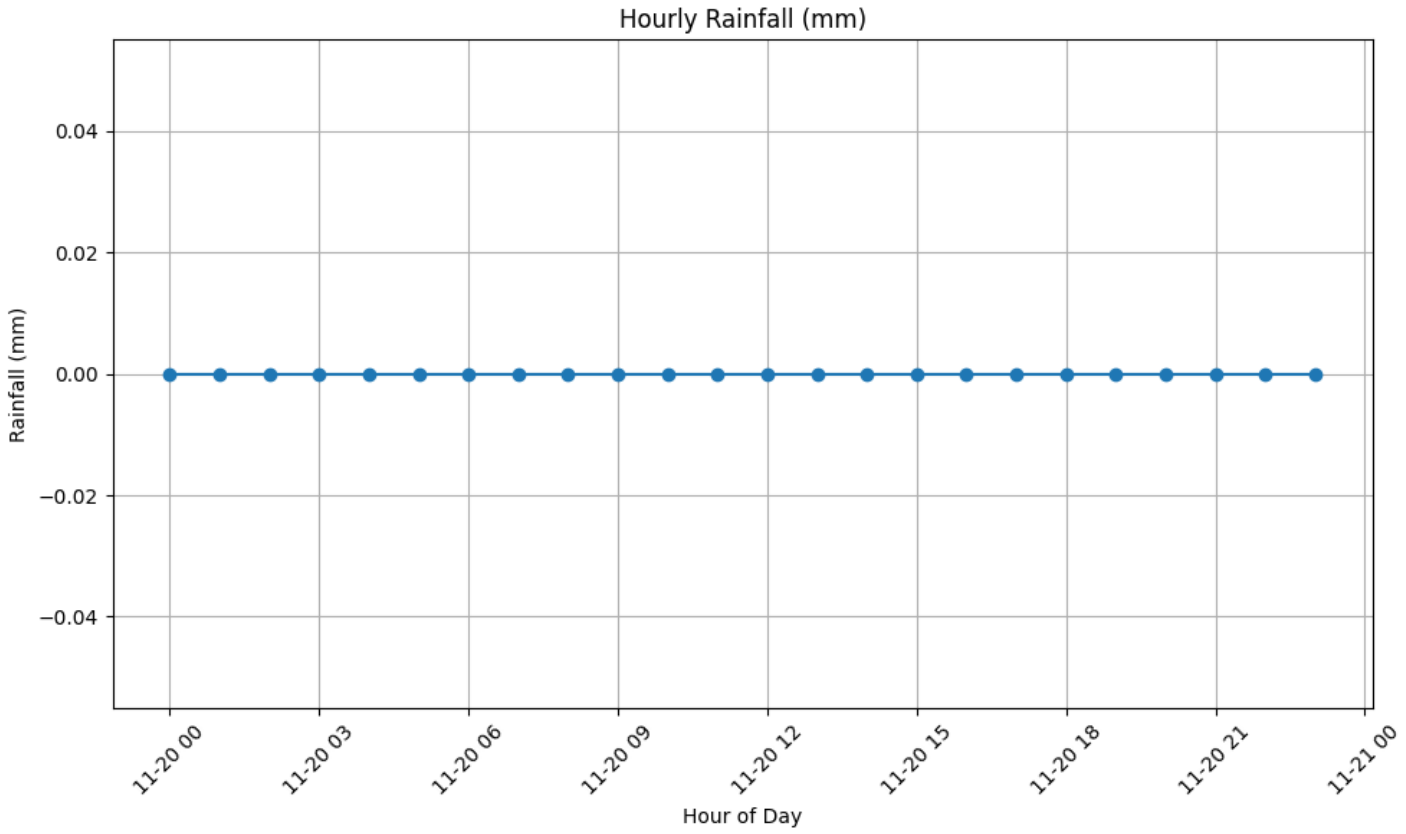
Recommendations: Based on the data available, it is recommended to explore the potential for increased energy storage capacity to leverage the peak generation hours more effectively and enhance energy output during periods of lower generation.

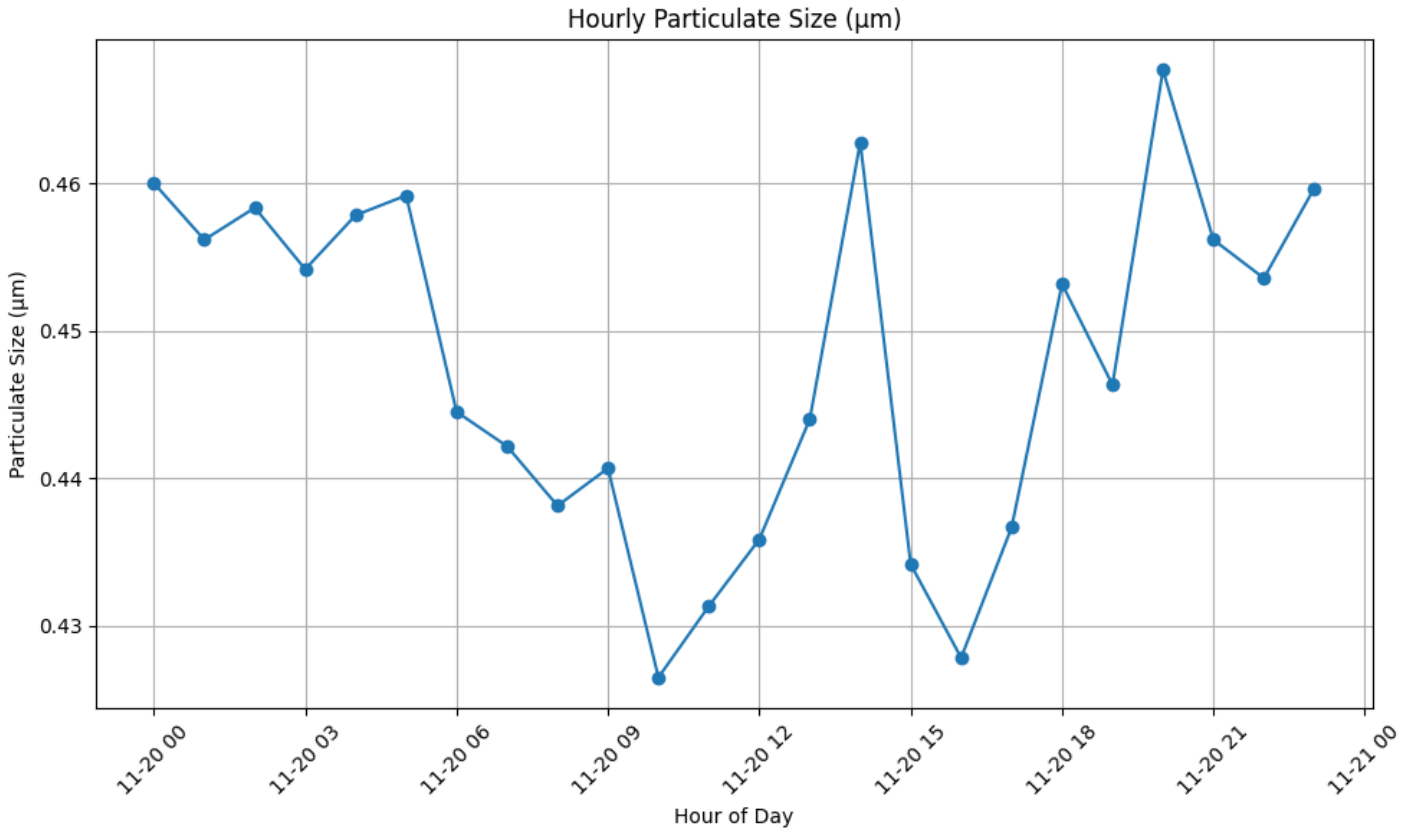

Hourly Energy Generation (kWh)
Energy Generation (kWh)
0
2
4
6
8
11-20 00
11-20 03
11-20 06
11-20 09
11-20 12
11-20 15
11-20 18
11-20 21
11-21 00
Hour of Day


Hourly Temperature (°C)
Temperature (°C)
22
24
26
28
30
32
34
36
11-20 00
11-20 03
11-20 06
11-20 09
11-20 12
11-20 15
11-20 18
11-20 21
11-21 00
Hour of Day


Hourly Wind Speed (ms)
Wind Speed (ms)
1
2
3
4
5
6
7
8
9
11-20 00
11-20 03
11-20 06
11-20 09
11-20 12
11-20 15
11-20 18
11-20 21
11-21 00
Hour of Day


Hourly Wind Direction (°)
Wind Direction (°)
60
80
100
120
140
160
180
200
11-20 00
11-20 03
11-20 06
11-20 09
11-20 12
11-20 15
11-20 18
11-20 21
11-21 00
Hour of Day


Hourly Rainfall (mm)
Rainfall (mm)
0.04
0.02
0.00
−0.02
−0.04
11-20 00
11-20 03
11-20 06
11-20 09
11-20 12
11-20 15
11-20 18
11-20 21
11-21 00
Hour of Day


Hourly Particulate Size (µm)
Particulate Size (µm)
0.46
0.45
0.44
0.43
11-20 00
11-20 03
11-20 06
11-20 09
11-20 12
11-20 15
11-20 18
11-20 21
11-21 00
Hour of Day