



Energy Consumption and Solar Analytics Report

Contactor Company Ltd

Client: Example Company LLC

Demo Solar Rooftop Project

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Energy Consumption and Solar Analytics Report

Generated by Energy Data Updater and Analytics App

Chapter 1: Energy Consumption Analytics

1.1 Max, Min, and Average Hourly Energy Demand

| Max Hourly Demand | Min Hourly Demand | Avg Hourly Demand |
|-------------------|-------------------|-------------------|
| 437.20 kW | 0.20 kW | 128.37 kW |

1.2 Adjusted Energy Metrics

| Adjusted Max Hourly Demand | Adjusted Yearly Total Consumption |
|----------------------------|-----------------------------------|
| 218.60 kW | 899536.21 kWh |

1.3 Month-wise Average, Max, and Min Daily Energy Consumption (kWh)

| Month | Avg Daily | Max Daily | Min Daily |
|-------|-----------|-----------|-----------|
| Jan | 1009.39 | 1896.00 | 635.40 |
| Feb | 1693.55 | 2321.10 | 1151.00 |
| Mar | 2290.75 | 2881.80 | 1592.80 |
| Apr | 2670.75 | 3302.40 | 1912.60 |
| May | 3113.74 | 3738.50 | 2628.80 |
| Jun | 3300.23 | 3878.40 | 2125.80 |
| Jul | 4768.88 | 5810.90 | 2390.00 |
| Aug | 5456.25 | 6403.80 | 4916.50 |
| Sep | 4788.27 | 5430.90 | 3798.30 |
| Oct | 3917.76 | 4665.30 | 2748.10 |
| Nov | 2470.29 | 3429.30 | 1992.30 |
| Dec | 1382.42 | 2064.20 | 886.20 |

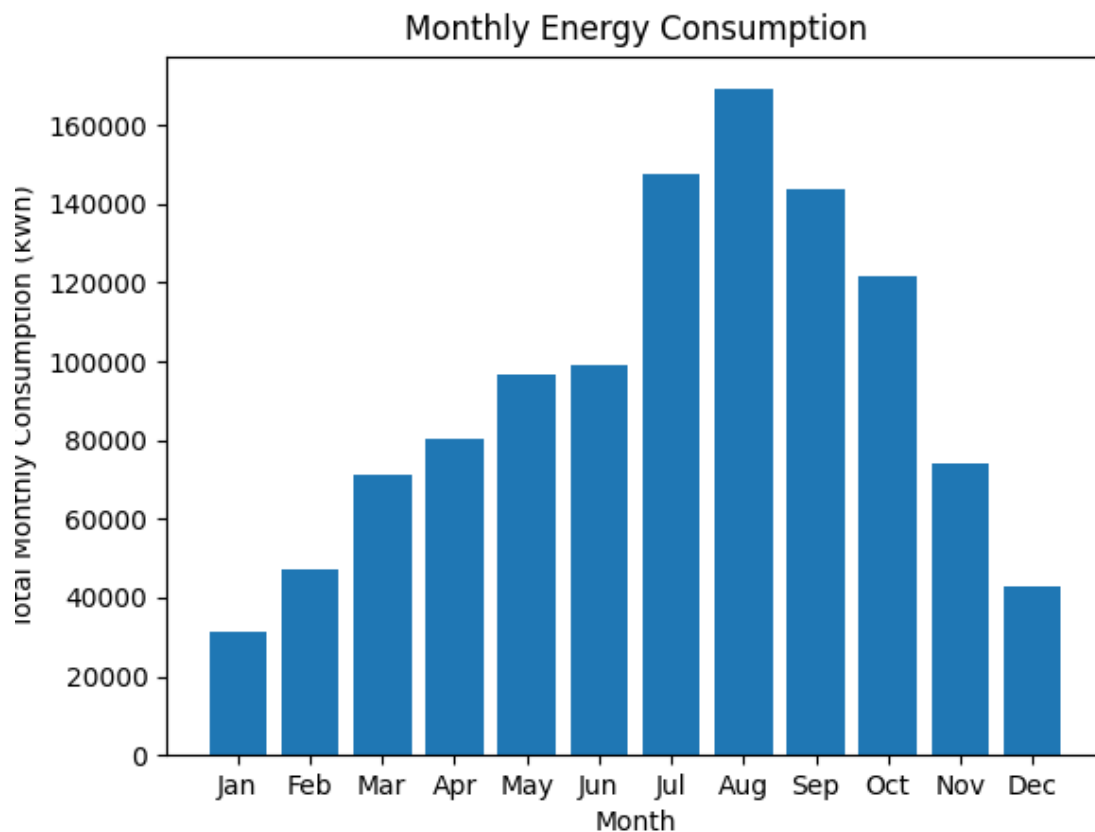
1.4 Daily Average Energy Consumption

| 24 Hours Average | Sun Availability Average |
|------------------|--------------------------|
| 3080.60 kWh | 2492.05 kWh |

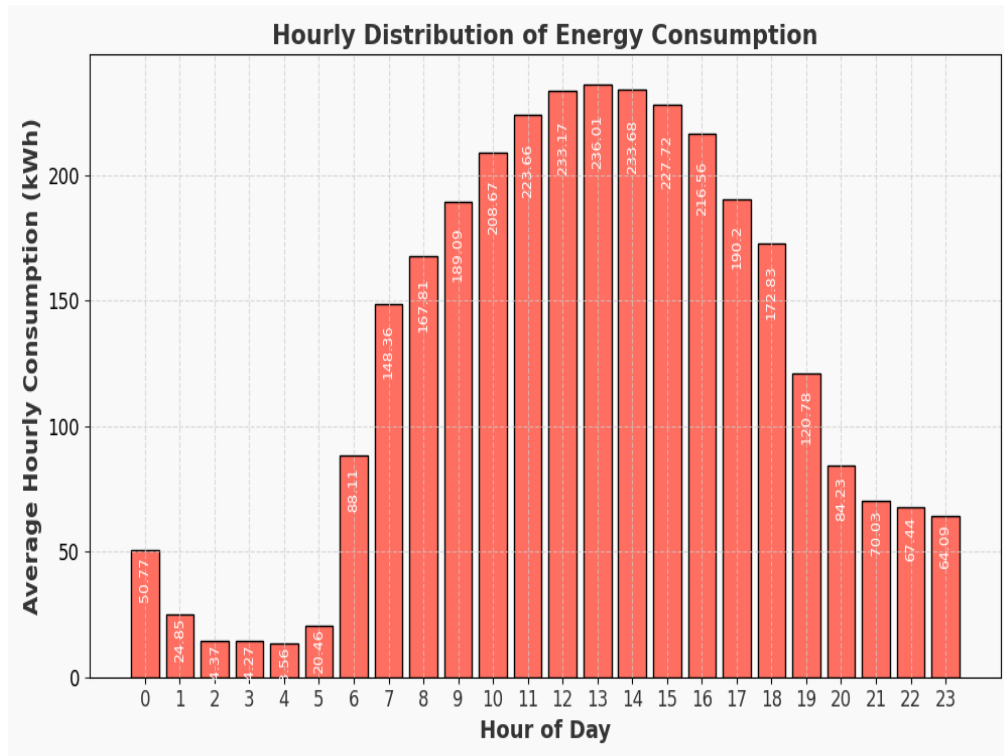
1.5 Monthly Energy Consumption for All 12 Months

| Month | Total Consumption (kWh) |
|-------|-------------------------|
| Jan | 31291.20 |
| Feb | 47419.30 |
| Mar | 71013.30 |
| Apr | 80122.50 |
| May | 96526.09 |
| Jun | 99006.79 |
| Jul | 147835.20 |
| Aug | 169143.60 |
| Sep | 143648.10 |
| Oct | 121450.50 |
| Nov | 74108.80 |
| Dec | 42854.90 |

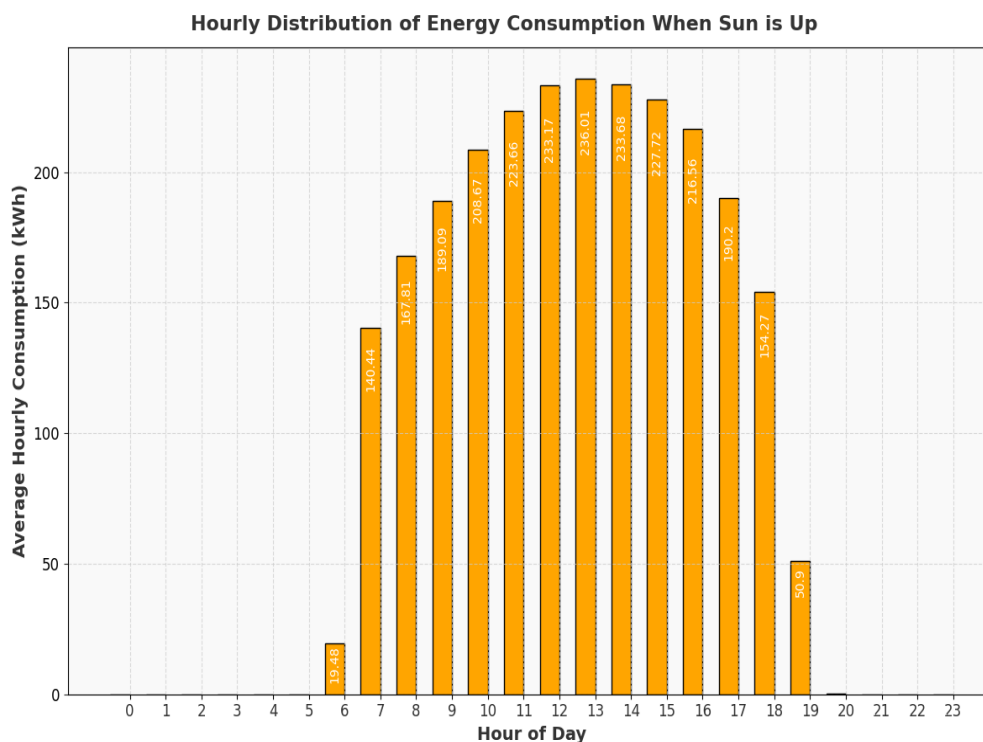
1.6 Monthly Energy Consumption Plot



1.7 Hourly Energy Consumption Distribution - for 24 hours a Day



1.8 Hourly Energy Consumption Distribution - During the Day



Chapter 2: Solar Energy Analytics

2.1 User Defined System Details

| Parameter | Value |
|-------------------|--------|
| Latitude | 22.7° |
| Longitude | 73.7° |
| Surface Tilt | 20.0° |
| Surface Azimuth | 180° |
| Module Efficiency | 21.15% |
| Performance Ratio | 81.50% |

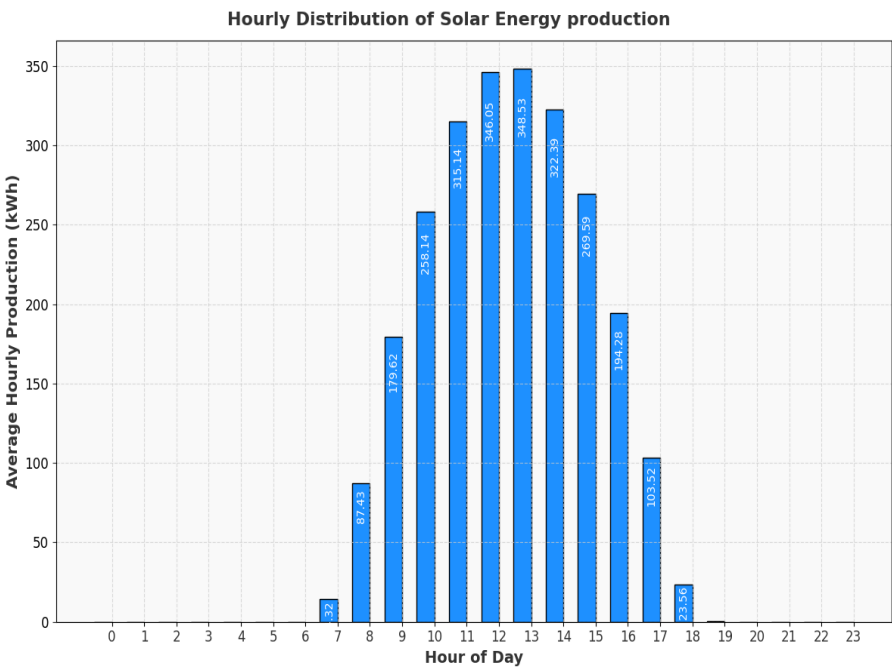
Optimized PV Capacity

457.66 kWp

2.2 Yearly Energy Yield Vs Consumption Stats

| Total Yearly Solar Energy Yield | Yearly Total Consumption During the Day |
|---------------------------------|---|
| 896511.07 kWh | 909599.38 kWh |

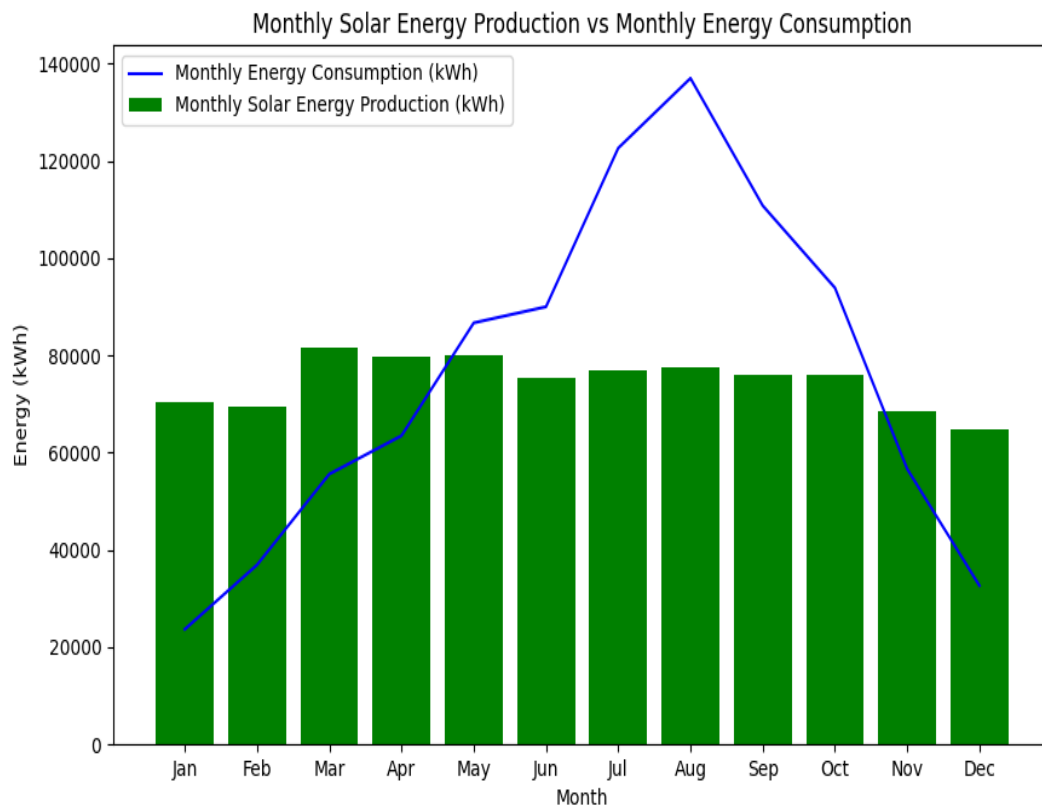
2.3 Hourly Solar Energy Yield Distribution Plot



2.4 Monthly Solar Energy Production Vs Energy Consumption (kWh)

| Month | Solar Energy Production (kWh) | Energy Consumption (kWh) |
|-----------|-------------------------------|--------------------------|
| January | 70505.26 | 23621.10 |
| February | 69469.51 | 36869.90 |
| March | 81549.72 | 55547.60 |
| April | 79689.38 | 63451.60 |
| May | 80134.89 | 86667.59 |
| June | 75414.29 | 89976.19 |
| July | 76948.92 | 122624.60 |
| August | 77593.48 | 136992.50 |
| September | 75975.78 | 110782.20 |
| October | 75958.94 | 93867.40 |
| November | 68575.07 | 56600.50 |
| December | 64695.83 | 32598.20 |

2.5 Monthly Solar Energy Production Vs Energy Consumption (Chart)



2.6 Monthly Excess Solar Energy Production

| Month | Excess Solar Energy Production (kWh) |
|-----------|--------------------------------------|
| January | 46884.16 |
| February | 32599.62 |
| March | 26002.12 |
| April | 16237.79 |
| May | 2362.78 |
| June | 760.56 |
| July | 436.06 |
| August | 0.00 |
| September | 0.00 |
| October | 633.28 |
| November | 12438.76 |
| December | 33327.33 |

2.7 Summary

This report provides a comprehensive analysis of energy consumption data and solar energy potential. Below is a brief summary of the key findings:

Energy Consumption Analysis:

- The maximum hourly energy demand recorded is 437.20 kW.
- The minimum hourly energy demand recorded is 0.20 kW.
- The average hourly energy demand is 128.37 kW.

Monthly Analysis:

- The month with the highest & lowest energy consumption are Aug & Jan.
- The month with the highest & lowest solar energy production are Aug & Jan.

Solar Energy Analysis:

- Optimized PV Capacity: 457.66 kWp
- Total Yearly Solar Energy Yield: 896511.07 kWh
- Yearly Total Consumption During the Day: 909599.38 kWh

The data indicates the potential for solar energy generation and the optimized capacity to meet the energy consumption demands while minimizing excess generation.