

MORE ENERGY

This document contains data to prove JLanka premium Solar PV System solution produces more energy than the reference of 3.8 hrs of effective sun light per day by Sri Lanka Sustainable Energy Authority.



CONFIDENTIAL

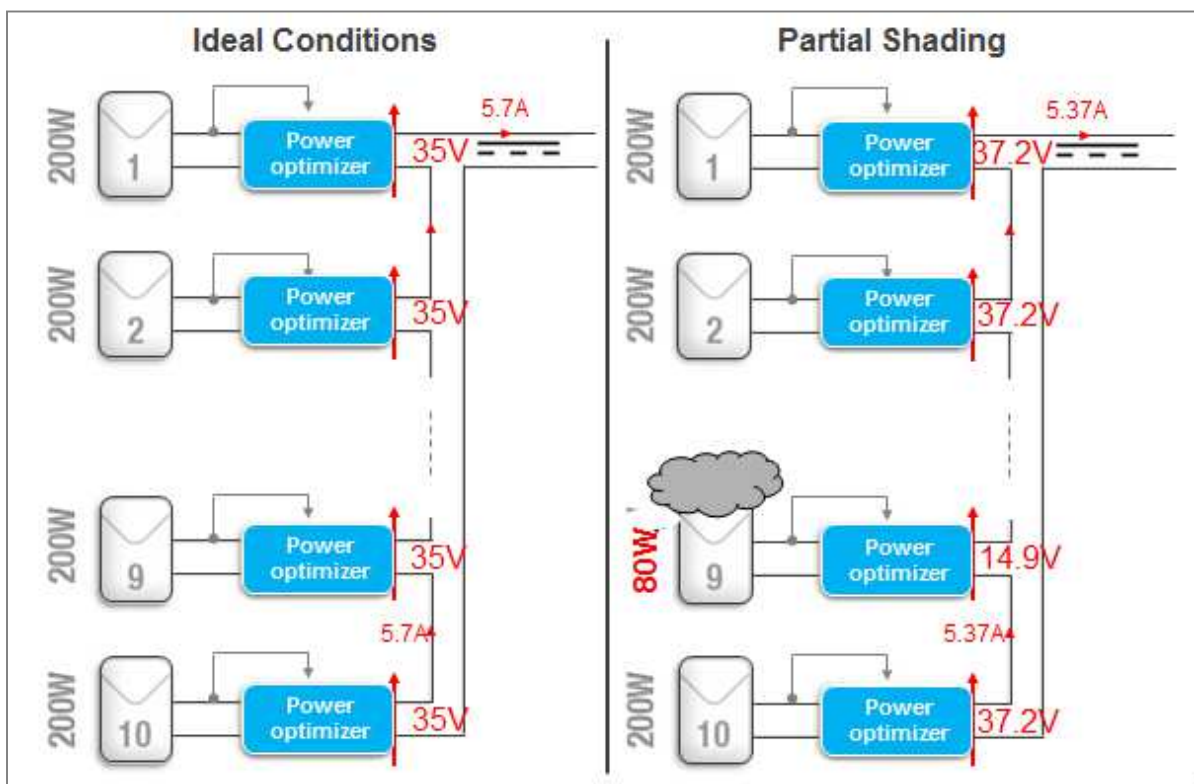
Project Reference Document of JLanka Technologies (PVT) LTD



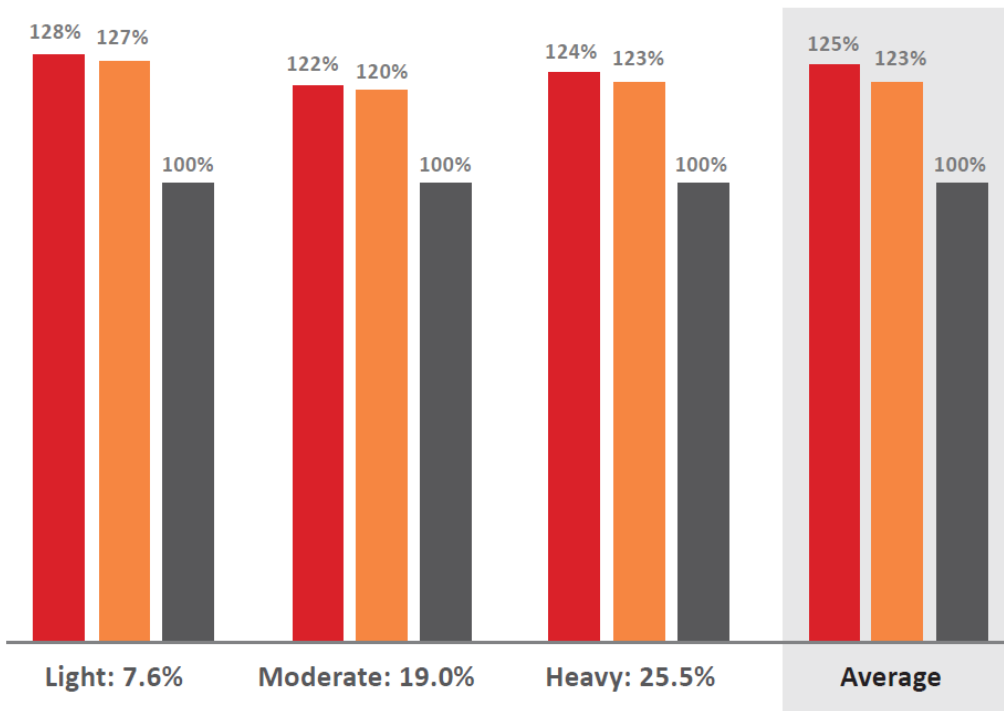
The unique feature with our inverter systems compared to the rest in the market is with Optimizer technology, MPPT tracking is for per Solar module and is not affected with the modules with ideal conditions and which of those with partial shading. But with others, MPPT is taken place for the lowest string value.

Maximum power output from the SolarEdge Inverter + Optimizer combination

The following diagram shows the operation of SolarEdge power optimizer at the shaded conditions. The Optimizer technology maximizes the energy harvest even at the shaded conditions; from the most common scenario, the clouding.



The best performing solution even with the shading conditions, which has proven in accredited laboratories in USA. The following experiment has proven the maximum energy harvesting capability of SolarEdge technology.



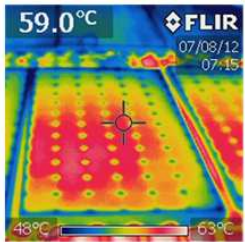



NREL / PVEL SMF Results

Figure 4:

- SolarEdge
- Enphase
- SMA

Here it can be clearly seen the added energy output from the SolarEdge Inverter + Optimizer system. In every shaded condition, SolarEdge system is the best performing solution as always.

It's time to think: How the module mismatch becomes an issue?

Reasons for module mismatch	Prevention method
 <p>Thermal degradation</p>	Module level MPPT
 <p>Bird droppings</p>	Module level MPPT
 <p>Soiling</p>	Module level MPPT
 <p>PID**</p>	Module level MPPT
Aging	Module level MPPT

** PID is the most effective performance degradation in Solar PV Systems.

- Potential induced degradation is a physical phenomenon reducing the modules power by reducing its fill factor and its output voltage
- This will result a performance degradation of more than 30% with age
- The PID Effect is the strongest on modules closest to the inverter's negative pole
- If PID is suspected, technicians are required to climb on the roof, disconnect the modules, and measure their output voltage

All string type inverter (even SMA) systems suffer from this PID effect, which causes more than 30% of performance degradation with time. Those technologies require separate actions to overcome PID. Please refer <http://files.sma.de/dl/7418/PID-PVOBox-TI-en-10.pdf> for more details.

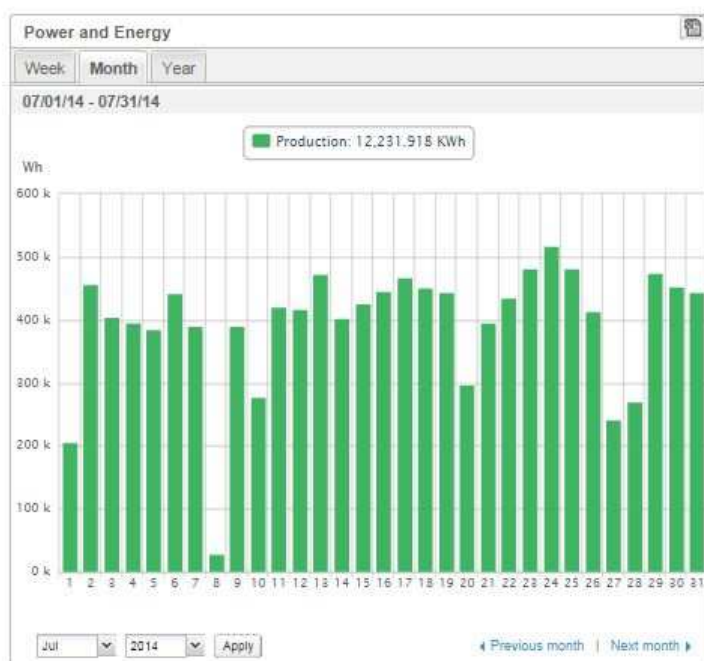
The following images are from some of the JLanka's system installations in Sri Lanka, where the actual energy production of the system is higher than the expected value. So, we can strongly **confirm the promised performance** of the JLanka Solar System.

The images captured from SolarEdge monitoring portal contains 100% real data which might be affected from **loss of grid** and **bad weather conditions**. Due to both of those reasons, the energy production of the JLanka Solar PV System might have been even higher.

This data is gathered from installations which are even 3 years aged (Eg: CRN 1277). So it can be highlighted that, even a 3 year old JLanka Solar PV System performs better than its guarantees at the first day.

Reference : <http://monitoring.solaredge.com/solaredge-web/p/home>

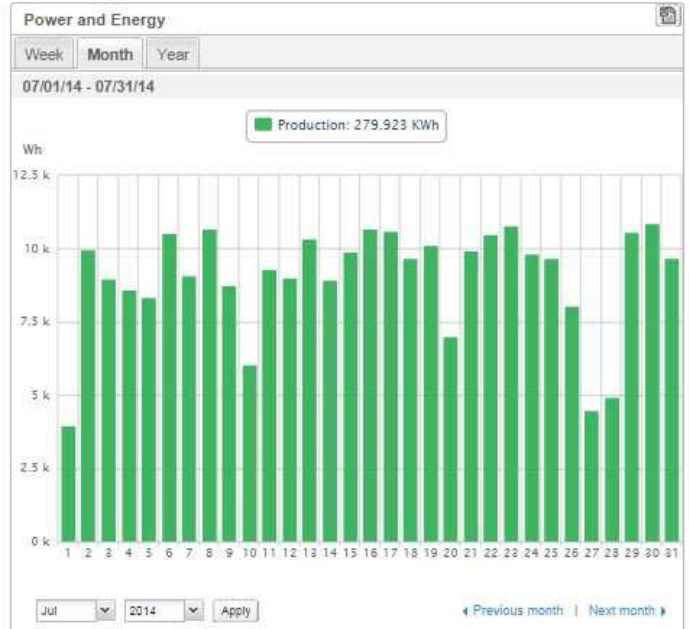
Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
76.48 kW	288.39 kWh	6.34 MWh	208.21 MWh	Rs5,183,497



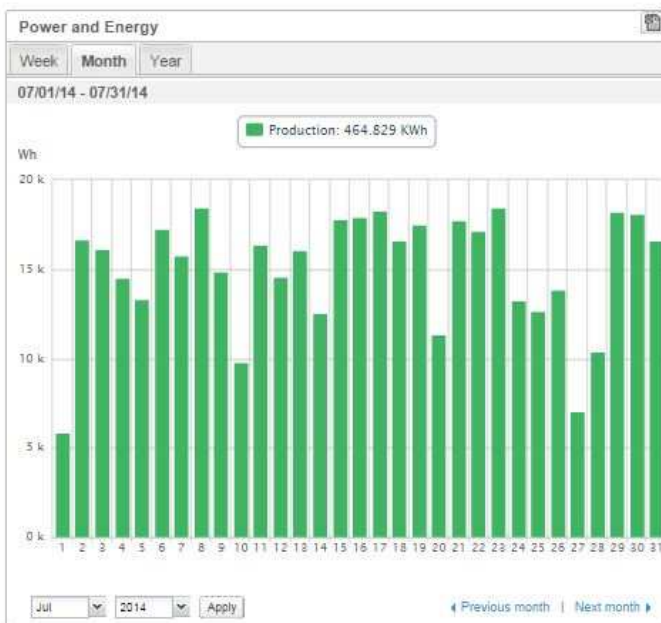
CRN - 1277
 Customer - Dilmah Tea
 Location - Peliyagoda
 Capacity - 100 kW
 Expected kWh/day - 380 kWh
 Expected kWh/month - 11,400 kWh
 Maximum observation/day - 522 kWh
 Actual monthly generation - 12,132 kWh
 Extra performance percentage - 6.5%

CRN - 2585
 Customer - Residencial
 Location - Rajagiriya
 Capacity - 2 kW
Expected kWh/day - 7.6 kWh
Expected kWh/month - 228 kWh
Maximum observation/day - 11.2 kWh
Actual monthly generation - 280 kWh
Extra performance percentage - 22.8%

Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
1.58 kW	6.06 kWh	132.49 kWh	1.25 MWh	Rs62,955.3



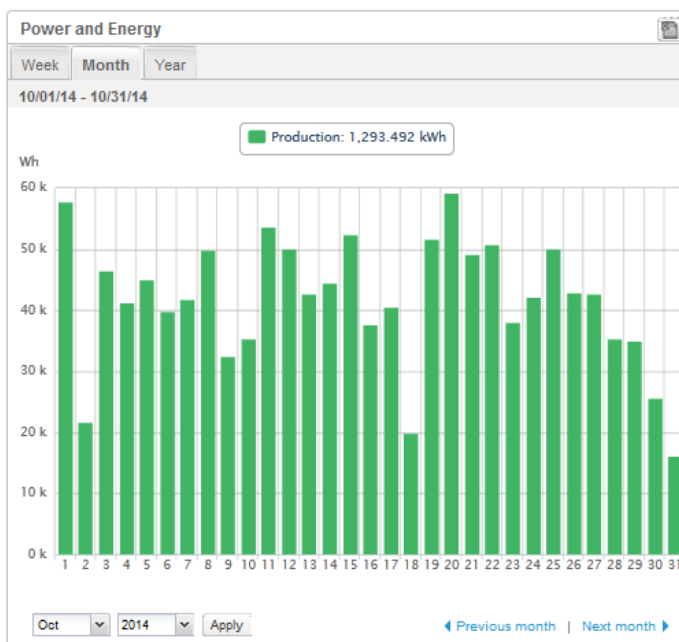
Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
1.18 kW	9.3 kWh	243.27 kWh	2.11 MWh	Rs104,707.41



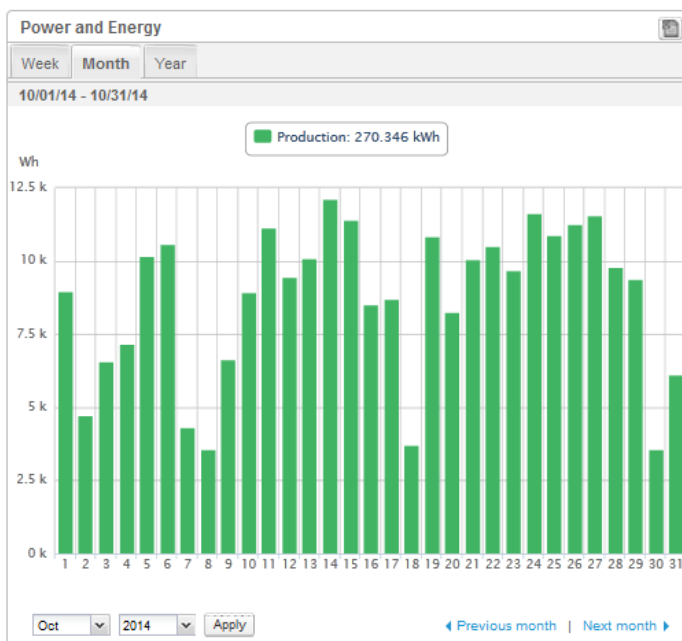
CRN - 7535
 Customer - Residencial
 Location - Rathmalana
 Capacity - 3.5 kW
Expected kWh/day - 13.3 kWh
Expected kWh/month - 399 kWh
Maximum observation/day - 18.3 kWh
Actual monthly generation - 464.83 kWh
Extra performance percentage - 16.5%

CRN - 8328
 Customer - Residencial
 Location - Batticaloa
 Capacity - 10 kW
 Expected kWh/day - 38 kWh
 Expected kWh/month - 1.14 MWh
 Maximum observation/day - 59.1 kWh
 Actual monthly generation - 1.29 MWh
 Extra performance percentage - 13.16%

Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
52 W	252.99 Wh	178.16 kWh	4.74 MWh	238,767.28 Rs



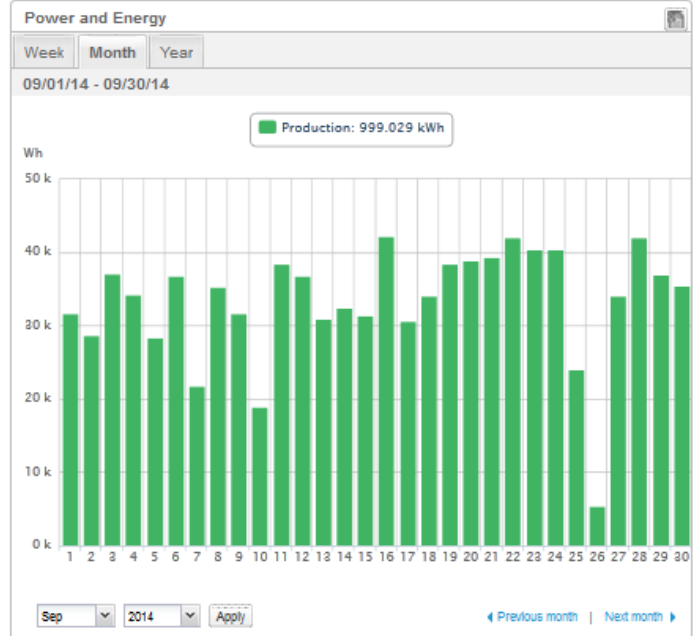
Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
1.43 kW	2.71 kWh	49.21 kWh	800.71 kWh	40,355.633 Rs



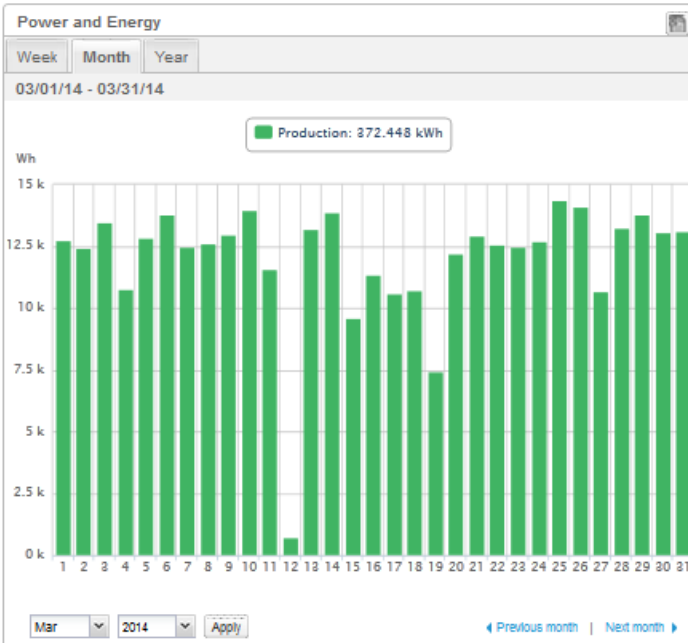
CRN - 9493
 Customer - Residencial
 Location - Negambo
 Capacity - 2 kW
 Expected kWh/day - 7.6 kWh
 Expected kWh/month - 228 kWh
 Maximum observation/day - 12.13 kWh
 Actual monthly generation - 270.35 kWh
 Extra performance percentage - 18.57%

CRN - 9076
 Customer - Residencial
 Location - Kalubowila
 Capacity - 8 kW
Expected kWh/day - 30.4 kWh
Expected kWh/month - 912 kWh
Maximum observation/day - 42.2 kWh
Actual monthly generation - 999.03 kWh
Extra performance percentage - 9.54%

Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
1.64 kW	12.16 kWh	160.95 kWh	3 MWh	151,156 Rs



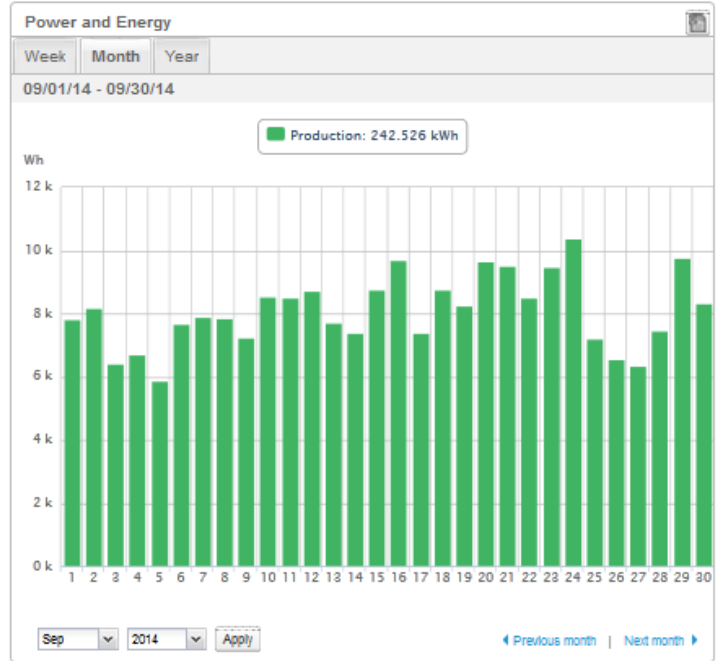
Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
571 W	3.71 kWh	52.04 kWh	3.59 MWh	179,234.98 Rs



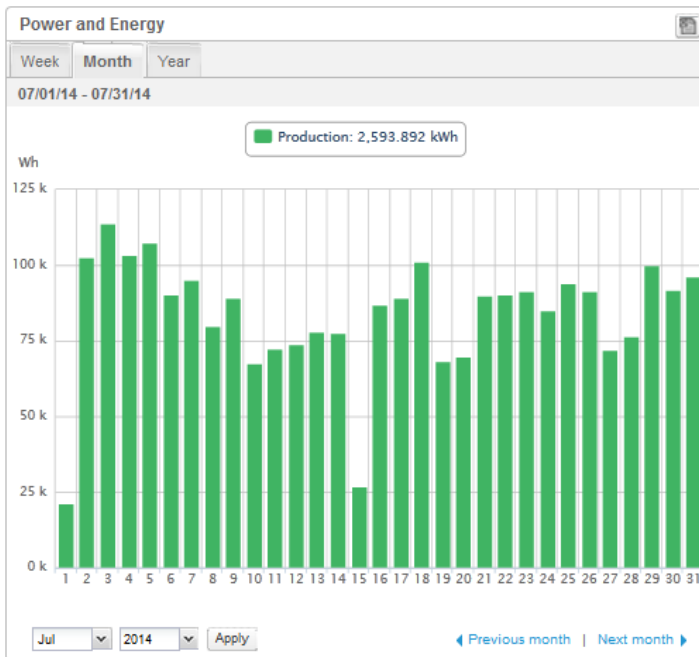
CRN - 6618
 Customer - Residencial
 Location - Ja-Ela
 Capacity - 2.5 kW
Expected kWh/day - 9.5 kWh
Expected kWh/month - 285 kWh
Maximum observation/day - 14.37 kWh
Actual monthly generation - 372.45 kWh
Extra performance percentage - 30.7%

CRN - 5708
 Customer - Residencial
 Location - Chilaw
 Capacity - 2 kW
Expected kWh/day - 7.6 kWh
Expected kWh/month - 228 kWh
Maximum observation/day - 10.4 kWh
Actual monthly generation - 242.53 kWh
Extra performance percentage - 6.37%

Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
688 W	1.86 kWh	32.87 kWh	1.68 MWh	84,565.31 Rs



Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
2.5 kW	6.41 kWh	160.43 kWh	11.86 MWh	597,457.7 Rs



CRN - 5708
 Customer - Kalundewa Retreat
 Location - Kalundewa
 Capacity - 13.5 kW
Expected kWh/day - 51.3 kWh
Expected kWh/month - 1.54 MWh
Maximum observation/day - 113.99 kWh
Actual monthly generation - 2.59 MWh
Extra performance percentage - 68.3%

CRN - 1793
 Customer - Cape Weligama
 Location - Weligama
 Capacity - 30 kW
Expected kWh/day - 114 kWh
Expected kWh/month - 3.42 MWh
Maximum observation/day - 168.32 kWh
Actual monthly generation - 3.64 MWh
Extra performance percentage - 6.4%

Overview				
Current Power	Energy today	Energy this month	Lifetime energy	Lifetime revenue
21.66 kW	72.94 kWh	711.23 kWh	16.76 MWh	452,603.75 Rs

