Wellington Estate DLF 5

Solar PV Plant **Phase 1 (200 kWP)** commissioned on 10th October 2017
Start of our Solar (Learning) Process...

- January 2014 - First Contact with any Solar EPC Company
- March 2014 – First techno-commercial proposal received for a 116 kWp plant, @Rs.95,000/kWp
- Plan deferred / dropped for following reasons:
  - New Concept
  - Project cost range found prohibitively high and financially unviable at that time.
## Our Solar (learning) Process...

<table>
<thead>
<tr>
<th>Month</th>
<th>Company</th>
<th>Size</th>
<th>Price</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 2016</td>
<td>ReNew Power</td>
<td>Not submitted</td>
<td>Not submitted</td>
<td>Offer not submitted</td>
</tr>
<tr>
<td>January 2017</td>
<td>Greenroots</td>
<td>350kWp</td>
<td>65,000/kWp</td>
<td>Design submitted</td>
</tr>
<tr>
<td>February 2017</td>
<td>Sudhir</td>
<td>150 kWp</td>
<td>59,500/kWp</td>
<td>Design not submitted</td>
</tr>
<tr>
<td>February 2017</td>
<td>Jakson Energy Systems</td>
<td>100 kWp</td>
<td>71,000/kWp</td>
<td>Design not submitted</td>
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<tr>
<td>March 2017</td>
<td>Tata PowerSolar</td>
<td>130 kWp</td>
<td>72,000/kWp</td>
<td>Design not found suitable</td>
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<tr>
<td>May 2017</td>
<td>Hero Future Energies</td>
<td>56.70 kWp</td>
<td>Rate not submitted</td>
<td>Design not found suitable</td>
</tr>
<tr>
<td>June 2017</td>
<td>Havells</td>
<td>260kWp</td>
<td>55,000/kWp</td>
<td>Design submitted</td>
</tr>
</tbody>
</table>
Final Selection in June 2017...

- Actively engaged with WECA since Jan 2017.
- Shared full details of design data, including shadow simulation and production analysis.
- Ready to work on component basis.
- Offered a choice of component vendors.
- Offered same SolarEdge technology, as was being offered by Havells.
- Ready to meet WECA target price of Rs. 50,000 per kWp + tax

- Contacted WECA (in June 2017) during finalization with Greenroots.
- Not willing to submit full details of design data.
- Was outsourcing installation and commissioning; Greenroots being one of their INC vendors.
- Not offering a choice of components.
- Not being very open with technical information being asked.
- Introduced WECA to SolarEdge optimizer technology.
Selection of main Technology Vendors

Solar Panels
- For subsidy eligibility, only Indian panels could be selected.
- One of the top solar Solar Panel makers in India with a 10-year business success history.
- Prompt & quick delivery.

Invertors & Optimizers
- Best in class technology.
- Enhanced safety features.
- Longest warranty period.
- Offering remote online real time monitoring for life.
Logistical Challenges

- Unloading and safe storage of incoming material on ground level.
- Carrying all material from ground level to roof top (via Lift/Stairs).
- Storage of material on roof top.
- Disturbance to residents from installation work.
## Remote Web Monitoring

### Overview
- **Current Power**: 208.93 kW
- **Energy today**: 532.63 kWh
- **Energy this month**: 47.22 MWh
- **Lifetime energy**: 521.06 MWh
- **Lifetime revenue**: Rs3,636,230.75

### Power and Energy
- **System Production**: 47.6 MWh

### Comparative Energy

<table>
<thead>
<tr>
<th>Month</th>
<th>Quarter</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2017</td>
<td>2018</td>
</tr>
</tbody>
</table>

### Weather
- **Sunny**
- Wind W, 17 km/h
- Humidity 21%
- Sunrise at 05:25
- Sunset at 19:14

### Environmental Benefits
- **CO2 Emission Saved**: 204,254.03 kg
- **Equivalent Trees Planted**: 682.58
Remote Web Monitoring

Wellington Estate DLF 5

Solar PV Plant **Phase 2 (150 kWp)** planning started in April 2018
Solar PV Plant Phase 2 commissioned on 10\textsuperscript{th} February 2019
Contribution of Solar Power in Common Area Electricity

Phase 1 = 200 kWp
[~40%]

After Phase 2 = 350 kWp
[~70%]

SOLAR POWER
GRID POWER
Annual Financial Savings

Achieved
With 200 kWp
Rs. 20 lac

Expected
With 350 kWp
Rs. 33 lac
Annual Environmental Savings

Current ~300 tons
~1000 trees

After Expansion ~500 tons
~1600 trees
Wellington Solar Plant Aerial View
Wellington Solar Plant Aerial View
Wellington Solar Plant Press Coverage

Tapping the Sun: Wellington Estate in DLF 5 shows how it’s done

HOW WELLINGTON GETS ITS ENERGY

1,800 kW total power requirement of the township

NOW
200 kWp: solar power generation capacity

40% of the common areas’ power needs are met through solar energy

¥20L: Annual savings on electricity bills

BY YEAR-END
350 kWp: the target to be achieved after expansion

75% of the common areas’ power needs will be covered by solar energy

¥35L: Expected annual savings on electricity bills

WISE MOVE
With installation of the 200 kWp solar power plant, residents of Wellington Estate will save more than ¥220 lakh per annum on electricity charges.

POWER WISE, MONEY WISE:
The electricity bill of the 10 houses in Wellington Estate has reduced to around ¥240 per month, saving the residents over ¥3,200 per year.

They say
It took four months to get the plant installed. We wanted to avoid any wastage and have it running in the shortest duration possible.

Earlier, our monthly electricity bill used to be approximately ¥5,000, but now it is reduced by 25-30%.

WeCare
सबसे बड़ा सोलर संयंत्र वाली सोलार्टी बनी डेलिग्टन
Learnings from the Experience

- Maximum capacity should be installed in one shot and not in phases.
- Best available technology in terms of modules & invertors should be given priority over cost.
- Post-installation preventive maintenance should be given high priority to derive maximum plant efficiency.
- For plants above 50 kWP, an independent professional design consultant should be preferred.
Wellington Estate DLF 5