Replacement of Diesel Generators in Residential Societies

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NN4Energy is an associate company of Mytrah Energy PLC (AIM: MYT) working towards the common goal of promoting clean energy solutions

A clean energy company focused on innovative solutions and having an asset base of over 1000 MW of operational renewable energy assets in India

**Wind**
1000 MW+ operational projects, 400 MW under construction across 7 wind-rich states with proprietary wind data

**Solar**
550 MW solar projects in execution and another 200 MW in advanced development

**Innovative solutions**
India’s first 125 MW integrated power desalination project

Turnaround of base load CCPP into a grid balancing asset
Solar roof top: Replacement of Diesel Generators in Residential Societies
Why is rooftop solar not taking off?

Cumulative installed DG capacity
MW

<table>
<thead>
<tr>
<th>Year</th>
<th>Capacity (MW)</th>
</tr>
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<tbody>
<tr>
<td>2013</td>
<td>68,000</td>
</tr>
<tr>
<td>2014</td>
<td>74,380</td>
</tr>
<tr>
<td>2015</td>
<td>81,800</td>
</tr>
<tr>
<td>2016</td>
<td>90,000</td>
</tr>
<tr>
<td>2017</td>
<td>99,000</td>
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</tbody>
</table>

Cost of electricity
INR/KWh

- Reliability of supply
- Cost of storage
- Rooftop productivity
- Counter party risks in BOOT model

Source: CERC
Case Studies: Solar rooftop on commercial buildings with DG back up

- **Location**: Manesar, Nestle R&D Center
- **Connected Load**: 1 MW; DG 1500 kVA
- **Rooftop Size**: 3500 Sq meter
- **Actual Capacity installed**: 226 KW

- **Location**: SAS Towers Medanta
- **Current Status**: No grid connectivity
- **DG Set**: 2 x 1500 KVA
- **Area available for rooftop**: 2000 sq. mt.
- **Feasible capacity**: 100 kWp

*Solar rooftop cannot eliminate DGs*
Root cause: Why do we need to have Diesel generators in the first place?

- Focus on minimizing losses on additional sale of power
- Lack of investment in feeder augmentation and separation
- No penalties for substandard supply

Discom

- Willingness to pay for assured supply
- Governed by society regulations and hence challenge on long term investments
- Multiple stakeholders

Society
We can accelerate adoption of solar power by targeted and comprehensive approach of rooftop and ground mounted solar

- Segmenting the Consumer/Societies on basis of connected Load
- Providing Dedicated feeders to the Societies with load greater than 1 MW
- Incentivizing the Discom with Premium tariff for dedicated feeder
- Penalizing Discom with low grid availability
- Assessing Open access options for dedicated supply
Conclusions

- Identify societies which can deliver high impact based on load requirement and diesel consumption
- Engage with Discoms and state regulators to arrive at a mutually rewarding solution for Discoms and societies
- Segregate feeders supplying to societies
- Target solar both rooftop and ground mounted (open access) to make a significant contribution
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