



# **Residential Solar PV Systems**

## **Roof Rental Model for Sectional Title Properties**



## Introduction

The commercial solar PV industry has matured over the last number of years to the extent where developers and commercial property owners are starting to see it as an integral part of their portfolios. The same trend can be seen in the residential market with increased electricity tariffs and municipalities opening their structures to allow for the installation of solar PV systems.

The typical load profile of a residential property is not favorable for the optimum utilization of a solar PV system without storage or feed-in tariffs. In the case of complexes or estates a diversification factor brought into a micro-grid increases the daily baseload which can be utilized to increase the size and efficiency of a solar PV system.

The proposed model leverages on the increase baseload of the micro-grid and is aimed at complexes and estates where the body corporate or HOA do not wish to own and maintain a solar PV system.

The proposed solar PV system is a dynamic grid-tie system with no energy storage or added benefits in the case of electricity outages. The intended benefit of the system is to subsidize electricity purchased from the electrical utility.

## Roof Rental Model

The roof rental model is based on the following:

- Ownership and operation of a solar PV system by a third party, i.e. Nortelec / Solareff.
- Nortelec / Solareff will own, operate and maintain the solar PV system.
- **Rental of roof space** from the Body Corporate for the installation of the solar PV system. An additional levy income will be generated to the benefit of all owners.
- Installation of the solar PV system by Nortelec / Solareff.
- On-sell of electricity generated from the solar PV system to the complex's utility manager or metering company. A power purchase agreement will be signed with the metering company.
- Coverage of finance costs, roof rental, operating & maintenance costs and insurance from the income generated from the solar PV system.

## Solar PV Grid-Tie System

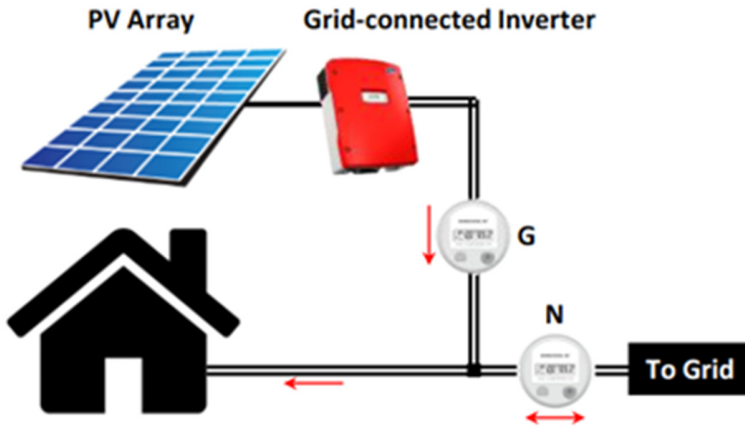


Fig. 1: PV Array & Inverter represents the solar PV system. The house represents the complex.

## Electricity Sales

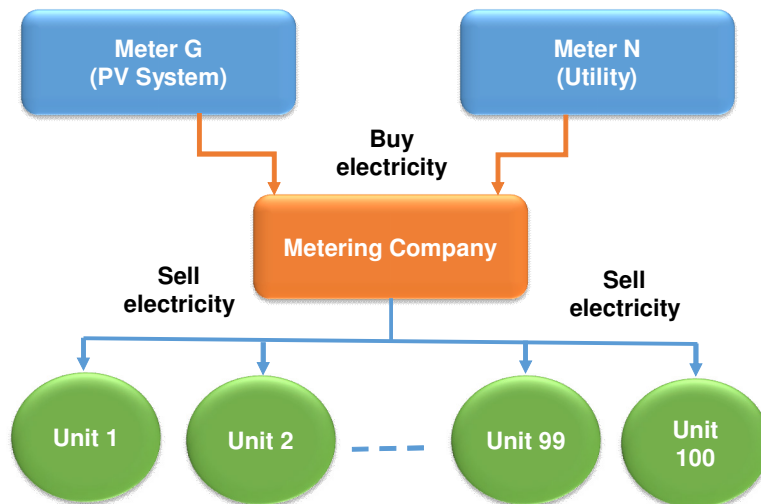
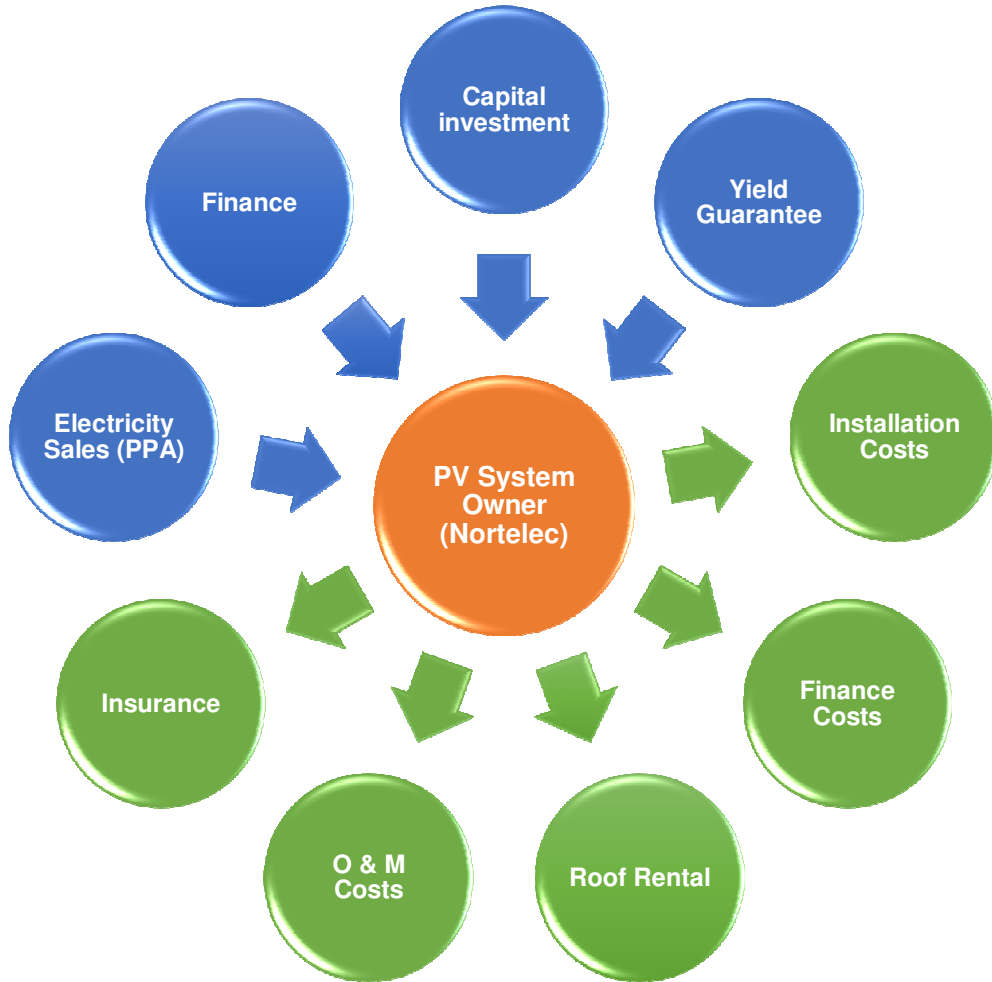


Fig. 2: Meter G and Meter N as illustrated in figure 1.

## Financial Structure



## Body Corporate Roof Rental Income

Income based on a 100 kWp Solar PV System

Roof area required = 700m<sup>2</sup>

Year	Roof Area (m <sup>2</sup> )	Rental Increase	Roof rental p.a.
1	700	6%	R 50,400.00
2	700	6%	R 53,424.00
3	700	6%	R 56,629.44
4	700	6%	R 60,027.21
5	700	6%	R 63,628.84
6	700	6%	R 67,446.57
7	700	6%	R 71,493.36
8	700	6%	R 75,782.97
9	700	6%	R 80,329.94
10	700	6%	R 85,149.74
11	700	6%	R 90,258.72
12	700	6%	R 95,674.25
13	700	6%	R 101,414.70
14	700	6%	R 107,499.58
15	700	6%	R 113,949.56