Shedding light on the process of generating Solar Power

Solar Electric Array (Solar Generator)

1

- *Sunlight striking solar cells generates DC electricity – the "photovoltaic" effect.*
- *Solar cells are electrically connected to one another and sealed within a solar "module."*
- *Solar modules are mounted together in rows, (an "array") facing south towards the sun.*
- *The output wires of each solar module are interconnected to combine the electrical output from each module.*

Inverter (DC–AC)

2

- *The DC power delivered from the solar array is converted to AC power by the inverter.*
- *The AC power is exactly matched to the voltage, frequency, and quality of the AC power provided by the utility.*
- *The inverter automatically shuts down if there is a loss of AC power to the building (utility power outage).*

Building

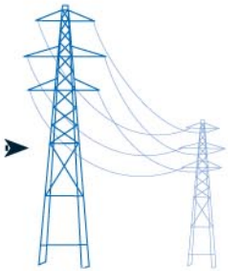
3

- *The output of the inverter (AC power) is connected to the building's electrical distribution panel.*
- *Solar power is thus supplied to lights and equipment within the building through the existing electrical wiring.*
- *When electricity demand in the building exceeds the solar power supply, additional power is drawn from the utility.*

Meter

4

- *The meter records the net electricity provided by the utility to the building.*
- *When the building's electricity demand exceeds the solar power system output, the meter records the electricity provided to the building in a normal fashion.*
- *However, when the solar power system output exceeds the building's electricity demand, the excess solar power flows to the utility and the building's* **meter runs backward!**



Utility Power Grid (Existing)

5

- *Peak power demand on the utility grid (and the potential for brownouts) is reduced by solar power generation.*
- *The utility supplies electricity at night or whenever building energy demands exceed solar power production.*
- *The excess solar power produced is supplied to the utility grid for use by other utility customers.*

SCHOTT solar