

Executive Summary

NIGHTTIME SOLAR CELL™
PARISE RESEARCH TECHNOLOGIES

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The Nighttime Solar Cell™ is a solid-state device that produces electrical energy at night by utilizing the temperature difference that exists between the surface of the earth nominally at a temperature of 290K and deep space at 4K. The single cells can be assembled into arrays for nighttime usage to augment daytime electrical energy production by solar panels. Since the major drawback to solar panels is no electrical energy power production at night, this device eliminates the problem. Hence, during daylight hours photovoltaic cells convert visible light into electrical energy, and during nighttime hours a thermoelectric generator converts thermal energy into electrical energy.

For low wattage applications, the Nighttime Solar Cell™ can produce electrical energy both day and night; this is a new source of energy tapping an as yet unutilized resource for clean, renewable, inexhaustible electrical energy. The full array can produce electrical energy continuously: low wattage applications eliminate the need for battery backup that could fail or require replacement.

As a comparison, over a 24-hour period the Nighttime Solar Cell™ will produce about one quarter the electrical energy that a same size solar panel installation will produce with 10 hours of sunlight operation.

The estimated cost to make a single 2" x 2" cell en masse is \$2.25. The single cells, assembled as an array, would cost slightly less than one-third the cost of a commercially available solar panel with a 90W (peak power at solar noon) output with nighttime battery backup.

Solar panel production is a multi-billion dollar annual industry. Producing electrical energy at night will expand the power output capabilities, increasing the market growth further and capturing a major portion of the market.

Several prototype cells have been built and tested demonstrating the efficacy of the concept and the practicality of utilizing existing components to manufacture the device.

The device has two issued US patents, Nos. 5,936,193 and 6,162,985, and a third Patent Pending, for the Nighttime Solar Cell™.

The Nighttime Solar Cell™ name has been trademarked through the USPTO with no opposition, attaining the trademark status "with intent to use". The first unit marketed will then identify the product as an official registered trademark in the United States with the well-known ® moniker.

Will license/sell technology or sponsored support is requested to build the next generation prototype Nighttime Solar Cell™.

[7 References]

NIGHTTIME ELECTRICAL POWER GENERATOR

