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Global Photonic Energy Corporation's Research Partners Develop Semitransparent Organic Solar Cells

-- Latest breakthrough highlights disruptive technology characteristic of organic solar cells --

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EWING, New Jersey, August 1, 2006 – Global Photonic Energy Corporation (GPEC), the leading developer of Organic Photovoltaic (OPV™) technology for ultra-low cost, high power solar cells, today announced that the Company's research partners at the University of Southern California (USC), Princeton University (Princeton) and the University of Michigan (Michigan) have demonstrated organic solar cells that are semitransparent to visible light while delivering approximately half the power output of a non-transparent cell. Semitransparent organic solar cells could be utilized to transform regular window glazing into a window that generates electrical power while retaining its basic functionality.

This latest achievement is part of GPEC's overall research and development efforts aimed at increasing the operating performance of its OPV™ technology and developing basic insights in exciting application areas. The Company's partner researchers detail their work in the June 5, 2006 issue of *Applied Physics Letters*.

According to the U.S. Department of Energy's International Energy Outlook 2005, electricity demand will nearly double by 2025 requiring an additional 11.7 trillion kilowatt-hours of capacity. Solar energy must play a major role in meeting this demand to mitigate greenhouse gas effects and meet global emission standards. Global solar cell production has grown 25% annually for the last 20 year reaching sales of $9 billion in 2005. This accelerating growth has resulted in a worldwide shortage of semiconductor silicon driving solar cell prices higher.

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Traditionally, photovoltaic or "solar" cells have been constructed of an inorganic semiconductor like silicon. Efficient silicon based devices, especially of large surface area, are difficult and expensive to produce. Silicon cells are fragile, heavy and opaque – limiting applications and potential uses. Cost is a critical factor in the solar cell industry as solar generated power is still four to six times more expensive to consumers than coal generated power.

Recent efforts have focused on the use of "organic" semiconductor materials. Organic semiconductors contain the ubiquitous element Carbon and have the potential to achieve ultra-low cost production cost and high power output in solar cells. Organic solar cells are ultra-thin, flexible and can be applied to large areas including curved or spherical surfaces. Because the organic layers are so thin, semitransparent solar cells can be fabricated creating power-generating windows that retain a significant portion of their basic transparency.

GPEC sponsored researchers at USC, Princeton and Michigan, led by Professor Stephen R. Forrest at Michigan and Professor Mark E. Thompson at USC, have focused on organic "small-molecule" devices that are assembled literally a molecule at a time in highly efficient nanostructures.

Solar cells manufacturers typically utilize various techniques for trapping incoming light inside of the device so that power output can be improved. The typical silicon solar cell is more than 200 microns thick and opaque to visible light. Reflective back contacts are utilized in thinner thin-film solar cells so as to increase the absorption of incoming light in the device. Semi-transparent cells, because they let some light pass through them, have reduced power output.

In this recent work, GPEC partner researchers at USC, Princeton and Michigan developed semitransparent organic solar cells which leverage the superior absorption capabilities of organic semiconductor materials and nanometer scale films to achieve high levels of visible light transparency while at the same time minimizing power loss.

Organic materials can be applied to virtually any surface using a low-temperature method akin to spray painting. Production methods of this sort are easily adaptable to continuous and so called "roll-to-roll" manufacturing processes and hold the promise of dramatically reduced production costs. Organic materials also can be used in flexible applications. GPEC's proprietary OPV™ technologies can be used to create photovoltaic cells of different colors or cells that act as window tinting in building integrated applications.

Aaron L. Wadell, Chief Operating Officer of Global Photonic Energy Corporation, stated, "This demonstrates one of the exciting capabilities of organic solar cells. Because of their strong absorption characteristics and very thin layers, we can build windows that generate electricity while retaining their basic functionality – that is they are still windows."

About Global Photonic Energy Corporation

Global Photonic Energy Corporation (GPEC) is the world leader in developing sustainable molecular Organic Photovoltaic (OPV™) technologies. GPEC is collaborating with world-class organizations to transform the energy and photovoltaic markets. GPEC has research partnerships with the University of Southern California, the University of Michigan and Princeton University.

GPEC was founded in 1994 by entrepreneur Sherwin I. Seligsohn. Mr. Seligsohn has been the Chairman of the Board and Chief Executive Officer of the Company since its inception. Mr. Seligsohn is also the founder, Chairman and Chief Executive Officer of Universal Display Corporation, a public company (NASDAQ: PANL).

Global Photonic Energy Corporation is located at the Princeton Crossroads Corporate Center in Ewing, NJ, minutes away from Princeton University.

To learn more, visit www.globalphotonicenergy.com

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