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Princeton University Researchers Achieve New Efficiency Record for Organic Photovoltaic Cells

-- Latest breakthrough demonstrates performance characteristics previously limited to silicon --

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EWING, New Jersey, April 19, 2004 – Global Photonic Energy Corporation ("GPEC"), the leading developer of sustainable Organic Photovoltaic (OPV) technology, today announced that The Company's research partner at Princeton University has achieved a new record in power conversion efficiency while demonstrating that an organic small-molecular device can have performance characteristics previously thought to be limited to inorganic or silicon solar cells.

This latest record of 4.2% is a 16% increase over the previous record, also held by GPEC. The Company's researchers explore this latest achievement in the April 19, 2004 issue of *Applied Physics Letters.*

The global demand for renewable energy is rapidly expanding. Global solar cell production has grown over 20% annually for the last 20 year reaching sales of $4 billion in 2003. Top manufactures include: Sharp Electronics, BP Solar, GE, Kyocera, Sanyo, Siemens, Shell Solar and others.

While some of the earliest significant solar cell advances and companies originated in the US, the majority of installations and production is now concentrated in the Far East, Europe and developing countries where the relative cost of electricity is high or the level of infrastructure build-out is low.

Traditionally, photovoltaic or "solar" cells have been constructed of an inorganic semiconductor like silicon. Solar cells are typically characterized by the efficiency with

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which they can convert incident solar power to useful electric power. However, efficient crystalline silicon based devices, especially of large surface area, are difficult and expensive to produce. Additionally, they are fragile, heavy and opaque – limiting applications and potential uses. Thus, while costs for these devices have dropped significantly overtime – further reductions and new capabilities are needed for additional market penetration and broader adoption.

Recent efforts have focused on the use of organic materials containing the ubiquitous element Carbon, as opposed to the conventional inorganic, silicon-based materials. Jiangeng Xue, a Princeton Doctoral Student and co-author noted, "Organic materials have the potential to achieve high photovoltaic conversion efficiencies *and* economical production costs. The materials are ultra-thin and flexible and can be applied to large, curved or spherical surfaces. This is really exciting".

Professor Stephen R. Forrest's Princeton research team has focused on organic "small-molecule" devices that are assembled literally a molecule at a time in highly efficient nanostructures. These devices have layers or structural elements that can be extremely small – at only 5 billionths of a meter thick and can be constructed on plastic surfaces.

Professor Forrest noted, "this advance is further proof that organics can perform in a manner believed to be confined to materials such as silicon – but potentially at a much lower device cost".

Organic materials can be applied to virtually any surface using a 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. Global Photonic's small molecular approach can be used to create photovoltaic cells of different colors or cells that act as window tinting in building integrated applications.

Aaron L. Wadell, C.O.O. of Global Photonic Energy Corporation, stated, "We would like to congratulate Professor Forrest on this latest achievement. Steve's pioneering efforts in nanotechnology, organic electronics, physics and device fabrication have created an unmatched track-record of results. Steve's small molecular organic photovoltaic cells have consistently achieved the highest efficiency performance."

About Global Photonic Energy Corporation

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

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), and American Biomimetics Corporation, a new materials sciences and technology venture group. Previously, Mr. Seligsohn founded and served as the Chairman of the Board and then Chairman Emeritus of InterDigital Communications Corporation (Formerly International Mobile Machines Corporation), a public company (NASDAQ: IDCC).

Global Photonic Energy Corporation is located at the Princeton Crossroads Corporate

Center in Ewing, NJ, minutes away from its research partner at Princeton University.

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