

Global Photonics achieves new efficiency for organic photovoltaic cells

Global Photonic Energy Corporation (GPEC) has announced that the company's research partner at Princeton University has achieved a new record in power conversion efficiency with a novel -- "Hybrid Planar-Mixed Molecular Heterojunction" (Hybrid PM2-HJ™) organic material structure.

In this latest work Princeton Researchers succeeded in developing single and tandem cells with efficiencies of 5.0% and **5.7%**, exceeding the Team's previous record of 3.6% and paving the way for further improvements in technology performance.

GPEC says one exciting aspect of the work is the relatively simple approach used by the team to achieve order at a molecular scale. The new structure is good at allowing electrons to be efficiently harvested from molecules excited by absorbed light from the sun. Photovoltaic research efforts have recently focused on the use of organic materials containing the ubiquitous element Carbon, as opposed to conventional inorganic, silicon-based materials.

Organic semiconductors, while relatively new, are already in commercial products including organic light-emitting displays (OLEDs) and xerography drums.

Aaron L. Wadell, president of Global Photonic Energy Corporation, said -- "*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.*"

GPEC believes that the same device architecture could, with further optimisation, be used to achieve at least **6.5%**, and when additional patented discoveries are also combined it may be possible to push device efficiency beyond **10%**.

www.globalphotonic.com www.princeton.edu

Global Photonic Energy Corp.

Global Photonic Energy Corporation (GPEC) is a developer of sustainable molecular Organic Photovoltaic (OPV™) and Photo Fuel™ (Hydrogen) production technologies. GPEC is collaborating with world class organisations to transform the energy and photovoltaic markets.

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. [*cintelliq note: Sherwin I. Seligsohn is also Chairman of Universal Display Corp.*]

GPEC has long-standing research partnerships with Princeton University and the University of Southern California.

The Hybrid PM2-HJ™ structure utilizes a combination of thin films of a single material and layers in which different materials are combined to form an ordered structure at a molecular scale.

GPEC's OPV™s using the hybrid PM2-HJ™ approach can be used to create photovoltaic cells of different colors or cells that act as window tinting in building integrated applications.

Jiangeng Xue, a former Doctoral Student at Princeton University and now research scientist at GPEC is co-author of the upcoming article describing this new work.