nLiten Energy targets III-V solar efficiency at Si solar cost

Startup company's novel approach promises to enable III-V solar cells to be produced at low costs comparable to the costs of current Si solar cells

July 28, 2016 – Mountain View, California -- nLiten Energy Corporation, a startup company developing novel technologies to improve the conversion efficiency of solar cells, has been selected for a $160,000 award from the U.S. Department of Energy SunShot Initiative.

The award will fund the development of a low-cost method to grow III-V thin-film solar cells on novel substrates that could enable the widespread use of solar energy by substantially reducing the cost of solar photovoltaic modules. Although III-V solar cells have long been used as a means of generating solar power with high conversion efficiency in satellites and space probes, the high cost of such III-V solar cells have hindered the widespread use of such solar cells for both residential and commercial applications.

The high cost of III-V solar cells comes from the expensive crystalline substrates required to ensure the growth of high-quality III-V material; nLiten Energy's new low-cost novel substrate and lift off method addresses this issue of high cost by facilitating the reuse of the novel substrate for a large number of epitaxial growth runs. Successful development of this method will enable significant efficiency enhancements in future solar photovoltaic panels relative to the current silicon-based solar panels. Because of the higher efficiency and lower cost of III-V solar cells compared to Si solar cells, nLiten's novel substrates have the potential to accelerate solar deployment to the target level set by the SunShot Initiative.

Dr. Alan Chin, CEO of nLiten Energy, is grateful for the opportunity provided by the award. "nLiten Energy is excited to be part of the SunShot Initiative. Despite the incredible progress that has been made in the last decade on cost reduction of solar modules, further technical advances, such as our novel method, are required to enable the production of solar photovoltaic modules that produce *affordable clean energy*. nLiten Energy's approach differs from most technical approaches: whereas most of the effort is in improving the efficiency of crystalline silicon solar cells, our method focuses on drastically reducing the cost of III-V solar

cells, which are proven to be able to provide higher conversion efficiencies than silicon solar cells." said Dr. Chin.

The work will be performed in collaboration with Professor Cun-Zheng Ning and his team of researchers at Arizona State University. "nLiten Energy is fortunate to be able to conduct this work in partnership with Prof. Ning and Arizona State University, a world-renown institution for the development of solar energy technologies." said Dr. Chin.

About nLiten Energy

Founded with the goal of enabling "affordable clean energy", nLiten Energy is developing novel technologies that enhance the efficiency of solar cells.

About the SunShot Initiative

The U.S. Department of Energy SunShot Initiative is a collaborative national effort that aggressively drives innovation to make solar energy fully cost-competitive with traditional energy sources before the end of the decade. Through SunShot, the Energy Department supports efforts by private companies, universities, and national laboratories to drive down the cost of solar electricity to $0.06 per kilowatt-hour. Learn more at energy.gov/sunshot.

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