



# Harnessing The Power Of The Sun

Magnolia Solar, Inc.  
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Trading Symbol: MGLT (OTCBB)

## **MAGNOLIA IS DEVELOPING TECHNOLOGY THAT WILL EFFICIENTLY CONVERT SUNLIGHT INTO ELECTRICAL POWER**

**Imagine a future where residential homes and commercial buildings are  
powered with inexpensive, ultra-thin films of light-weight solar cells!**

Magnolia's solar cell research is bringing this dream of the future closer to reality. Quantum effects in nano-structured materials enable the development of new device concepts that can radically enhance the operation of traditional semiconductors. For example, a larger fraction of the optical spectrum can be harnessed while maximizing the solar-cell operating voltage using quantum wells and quantum dots embedded in a higher-band-gap barrier material.

Magnolia Solar's key innovation is in the proprietary technologies it is developing that increases the capture of a wider band of the solar energy falling on the cell using nano-structures materials. These materials are capable of capturing most of the available energy available from solar radiation. Magnolia unique cell designs will increase the cells efficiency by reducing reflection of light at the surface, trapping the light in the cell, and increasing its travel path in the thin-film cell so that it converts more light and more photons into electricity.

## **MAGNOLIA SOLAR IS LOOKING TO CREATE UNCONVENTIONAL SOLAR CELL DESIGNS**

Historically, crystalline silicon (c-Si) has been used as the light-absorbing semiconductor in most solar cells, even though it is a relatively poor absorber of light and requires a considerable thickness (several hundred microns) of material. Nevertheless, it has proved convenient because it yields stable solar cells with good efficiencies (14-21%, half to two-thirds of the theoretical maximum) and uses process technology developed from the huge knowledge base of the semiconductor industry.

**THE MAGNOLIA ADVANTAGE:** Magnolia's thin film solar cell approach offers significant gains in efficiency vs. other thin film cells and modules by the application of proprietary nano/micro technologies; and has the potential for one of the lowest cost/watt solar technology. Our main priority is to provide customers and business partners with unparalleled R&D product development, efficient manufacturing strategies and new generation products for solar cell industry. Magnolia Solar wants to make affordable, renewable energy available at the lowest possible cost!

## **THE GOAL OF MAGNOLIA SOLAR IS TO DEVELOP PV MODULE TECHNOLOGIES THAT CAN BE MANUFACTURED AT LESS THAN \$1.00 PER WATT**

Affordable energy is one of the key drivers of economic development. The U.S. Energy Information Administration (EIA) stated in its 2010 report that net world electricity generation will increase from 18.8 trillion kilowatt hours (KWH) in 2007 to 25 trillion KWH in 2020 and 35.2 KWH in 2035. World Net Electricity Consumption in 2015 is expected to reach 18,453 billion kilowatt-hours according to the EIA.

**WE BELIEVE RENEWABLE ENERGY WILL PLAY A  
SIGNIFICANT ROLE IN HELPING MEET THIS DEMAND.**

### **Public Company Statistics**

**Ticker:** MGLT

**Sic Code:** 3674

**CIK:** 1437491

**State of Incorporation:** Nevada

**52-Wk High/Low:** \$0.55 - \$1.23

**Shares Outstanding:** 23,905,000

**Market Cap:** \$14.3 M

**Fiscal Year Ends:** December 31, 2011

**On the Web:** [www.magnoliasolar.com](http://www.magnoliasolar.com)

### **Management**

**Dr. Ashok Sood:** Dr. Ashok Sood is President, Chief Executive Officer and a Director of the Company. He is a 30-year industry veteran with experience that includes developing and managing solar cells, optical, and optoelectronics technology products for several major corporations, including Lockheed-Martin, BAE Systems, Loral, Honeywell, and Tyco International. Dr. Sood was instrumental in development and managed optical and optoelectronics technology for these companies as a manager in the optoelectronics group and worked to develop ribbon silicon solar cells, CdTe, CdS and HgCdTe, GaN/AlGaN, ZnO semiconductor devices. Many of the technologies and products developed have become large product lines at these companies.

Dr Sood was involved in design and development of solar cells at Mobil-Tyco Solar Energy Corporation now under the management of RWE-Schott Solar. He contributed to design and development of Silicon Ribbon solar cells and was instrumental in design improvements to enhance the solar cell efficiency of EFG ribbon solar cells. Dr Sood was also Senior Engineer at Tyco Laboratories, Inc., (Now Tyco International) where he built and set up optical and electronic measurement facilities for silicon p-n junction solar cells and developed processes for building high efficiency solar cells for space applications. This work led to a joint venture with Kyoto Ceramics in Japan.

Dr. Sood has also led the development of optoelectronics and imaging devices using CdTe, HgCdTe, GaN and ZnO for various defense applications, including EO, IR and UV imaging, secure communications, and self-protection applications.

Dr. Sood has led the efforts resulting in DARPA sponsorship of several projects. He has also led various industry and University teams bridging centers of excellence for material sciences across the United States.

Dr. Sood received his Ph.D. and M.S. in Engineering from the University of Pennsylvania and has an M.S. and a B.S. in Physics (Honors) from Delhi University in India.

At the University of Pennsylvania, he was part of the Optical/Semiconductor Materials technology group, where he attended Physics courses given by two Nobel Laureates. His Ph.D. dissertation was on the study of optoelectronic properties of PbS/CdS for detector and laser applications in the visible to near infrared spectral bands. Dr. Sood is a member of IEEE and the SPIE. He has chaired sessions on optical and nanotechnology at conferences of those organizations. He has also been on several expert panels for future direction of Thin Film Solar Cells.

**Dr. Yash R. Puri:** Dr. Yash R. Puri is Executive Vice President, Chief Financial Officer and a Director of the Company. He has many years of photovoltaic technology and applications experience both in the private sector and in the academia.

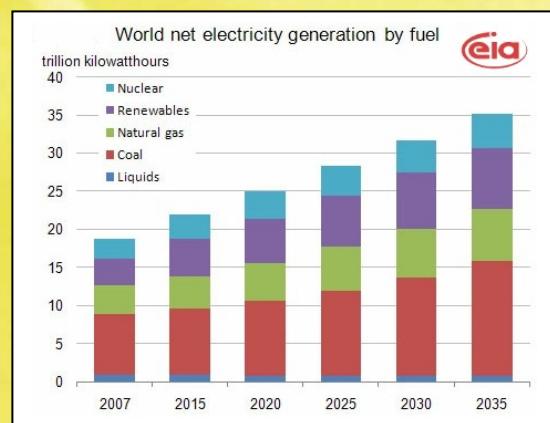
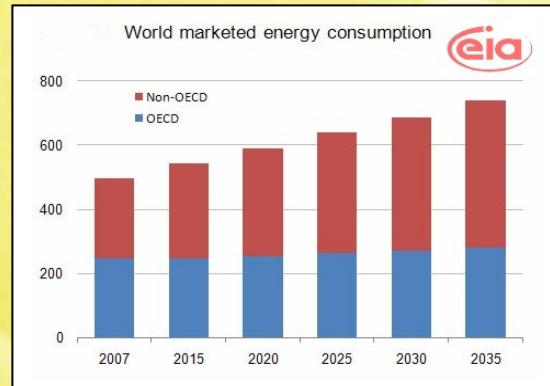
Previously Dr. Puri was VP of Finance for GT Equipment Technologies, Inc., (presently known as GT Solar, Inc., an equipment manufacturer serving the semiconductor and the photovoltaic industries. He helped this high technology startup, formed in 1994, to grow to revenue of about \$20 million. The company won rewards and considerable recognition; it was a New England finalist in the Ernst & Young Entrepreneur of the Year award. In this position, Dr. Puri successfully negotiated a \$3.5 million line of credit with a major bank, established an audit relationship with a national accounting firm, established a foreign sales corporation, implemented a R&D credit program and established company-wide management software to integrate manufacturing and financial operations.

Dr. Puri is also a Professor of Finance at the University of Massachusetts and has been Chairman of the Management and Finance Department. In these positions, he successfully managed several externally funded projects and gained experience in technology and growth management.

Dr. Puri holds a B.S. in Physics, a M.S. in Solid State Physics, and a M.B.A. from the University of Delhi. He also holds a M.B.A. in Finance and a D.B.A. in International Business from Indiana University, Bloomington.

**Technical Advisory Board:** Professor Fred Schubert: Professor Schubert is a Wellfleet Senior Constellation Professor of Physics at the Rensselaer Polytechnic Institute (RPI) in Troy, NY and is a world-renowned expert in optoelectronic devices and nanostructure-based antireflection coating technology.

Professor Schubert is named as the inventor or co-inventor on twenty eight U.S. patents.



**World Energy Consumption Summary:** The most rapid growth in energy demand from 2007 to 2035 occurs in nations outside the Organization for Economic Cooperation and Development. Total non-OECD energy consumption increases by 84 percent, compared with a 14-percent increase in energy use among OECD countries. Strong long-term growth in gross domestic product (GDP) in the emerging economies of non-OECD countries drives the fast-paced growth in energy demand. In all non-OECD regions combined, economic activity—as measured by GDP in purchasing power parity terms—increases by 4.4 percent per year on average, compared with an average of 2.0 percent per year for OECD countries. Source U.S. Energy Information Administration.

## MAGNOLIA SOLAR'S TECHNOLOGY INNOVATIONS INCLUDES:

- \* The use of nanotech materials to broaden the range of solar spectrum captured by the solar cell. Improving cell performance, by capturing more usable energy, provides power over a wide range of atmospheric conditions by harnessing more of the UV/Visible/IR spectrum.
- \* Magnolia's nanostructure-based anti-reflection coatings dramatically improve solar cell performance by minimizing reflection losses at the air/encapsulant and encapsulant/solar cell interfaces.

## MAGNOLIA SOLAR BELIEVES THAT IT CAN BECOME THE WORLD'S LOW COST THIN-FILM SOLAR POWER PRODUCER BY REDUCING MANUFACTURING COSTS TO SIGNIFICANTLY LESS THAN \$1 PER WATT FOR A SOLAR PV MODULE

**Forward Looking Statements:** This release contains forward-looking statements, including, without limitation, statements concerning our business and possible or assumed future results of operations. Our actual results could differ materially from those anticipated in the forward-looking statements for many reasons including: our ability to continue as a going concern, adverse economic changes affecting markets we serve; competition in our markets and industry segments; our timing and the profitability of entering new markets; greater than expected costs, customer acceptance of our products or difficulties related to our integration of the businesses we may acquire; and other risks and uncertainties as may be detailed from time to time in our public announcements and SEC filings. Although we believe the expectations reflected in the forward-looking statements are reasonable, they relate only to events as of the date on which the statements are made, and our future results, levels of activity, performance, or achievements may not meet these expectations. We do not intend to update any of the forward-looking statements after the date of this document to conform these statements to actual results or to changes in our expectations, except as required by law.