

Nanotech: Making Photovoltaics Possible

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Abstracts

Photovoltaics is the technical term for generating electricity from light and today it is fast becoming an important industrial product. Presently the PV market is dominated by wafer based crystalline Si cells, but is hampered with high costs. Today's solar cells are simply not efficient enough and are currently too expensive to manufacture for large-scale electricity generation. However, the cost of these cells is likely decrease in the future by using thinner wafers and devices with higher conversion efficiency. It is here where nanotechnology is expected to will play an important role in the longer run in order to further lower the PV cost. PV is also likely to profit from cross fertilization with micro- and nano-electronics.

Nanotechnologies are worldwide regarded as key technologies for innovations and technological progress in almost all branches of economy. Nanotechnologies as key and cross-sectional technologies exhibit the unique potential for decisive technological breakthroughs in the energy sector, thus making substantial contributions to sustainable energy supply. In recent years, nanotechnology researchers are achieving astonishing results in many fields of medicine and electronics: from microscopic sensors to transistors constantly decreasing in size, industry is pushing to innovate and find always new, cost-effective solutions. One of the most promising and exciting progress has been shown in the field of solar cells development.

The range of possible nanoapplications in the energy sector comprises gradual short and medium-term improvements for a more efficient use of conventional and renewable energy sources as well as completely new long-term approaches for energy recovery and utilization.

Presently, the climate of economic difficulty facing the world is resulting in a rising demand for going green. An attempt is being made to stimulate economies by an expansion of government spending in the areas of sustainability, energy conservation

and renewable energy. However the credit crunch and wild swings in the price of oil could get in the way of these nanotech solutions being aggressively pursued.

In this scenario, Aruvian's R'search brings to you its research report – Nanotech: Making Photovoltaics Possible. This research report takes a look at how nanotechnology is changing the world of solar photovoltaics and making possible advances which earlier one could not even possibly imagine. The report looks at the technology which is making this possible. Basics of nanotechnology, of photovoltaics, of the current PV industry worldwide, and of course, of the usage of solar power worldwide, is all analyzed in this report. Information on companies making possible the usage of nanotechnology to further increase the profitability of photovoltaics is also provided in this report.

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