

DSSC Technology Trend and Market Forecast(2008~2015)

<https://marketpublishers.com/r/D631F851D0BEN.html>

Date: March 2011

Pages: 277

Price: US\$ 3,990.00 (Single User License)

ID: D631F851D0BEN

Abstracts

PV power uses pollution-free energy source, solar energy and replace existing energy such as fossil fuel. At the same time it solves environmental problem, provides based industries for human wealth and pleasant life. Photovoltaic is well-balanced future 3E industry (3E: Economy Growth, Environment Protection and Energy Security)

Dye-Sensitized Solar Cell, DSSC, became widely known because Nature magazine informs 7.1% of photoelectric conversion efficiency by Prof. Gratzel in 1991. The figure is short of conventional silicon solar cells but many researches on DSSC are world-widely being conducted because of advantages; having 10~11% of commercial efficiency, reducing cost by 1/5 with low-cost manufacturing facility and process technology and applying transparent solar cell based on flexible substrate.

It is expected that the small-sized DSSC accounts for most of solar cell market until the beginning of 2011, but after 2012, Korean companies such as Samsung SDI, Dongjin Semichem, and Timo and Foreign companies including Corus, Sharp, DNP and 3G Solar produce products. As a result, the commercialization of DSSC will be made in 2013. Now, the application of DSSC, Building Integrated Photovoltaic System (BIPV), will account for more than 50% of DSSC market, portable electric charger is expected to grow to 20% of the market.

DSSC makers will enter the market and put more efforts into DSSC. That is because conventional crystalline, thin-film solar cell as well as organic solar cell captures most of the market if its commercialization is delayed

'DSSC Technology Trend and Market Forecast' released from Solar&Energy contains market forecast and research trend of DSSC companies for reducing module cost and

commercializing DSSC.

This report will provide followings about DSSC technology and market trend.

DSSC operating principle/ properties of each material/ manufacturing process
and development trend

DSSC patent trend by country, year and technology

Research institute and companies' technology trend by country

DSSC market forecast

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 - 4.2.4. Fujikura
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- 4.2.7. TDK
- 4.2.8. AIST
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