

# Dye Sensitized Cells: Materials, Applications and Opportunities – 2011

https://marketpublishers.com/r/D840B42A9EFEN.html

Date: April 2011

Pages: 64

Price: US\$ 995.00 (Single User License)

ID: D840B42A9EFEN

## **Abstracts**

Dye sensitized cells (DSC) were once little more than a curiosity, positioned at the edge of the organic photovoltaics space. However, recent developments suggest that this approach to photovoltaics is rapidly commercializing; offering a potential low-cost technology solution for BIPV and mobile PV applications.

Much of the new bullishness surrounding DSC has been enabled by recent materials-related innovations. These innovations new transparent electrolytes, replacing platinum electrodes with less costly electrodes using carbon and cobalt, and re-thinking the DSC cell architecture.

More companies are also into the DSC and as a result, NanoMarkets believes the time has come for this industry analysis report that focuses exclusively on the DSC space. In addition to analyzing the opportunities for this technology in the BIPV and mobile PV space, this report appraises the strategies of the main firms active in this space. As with all NanoMarkets reports, it also provides an eight-year forecast for the DSC sector by volume and value of shipments.



### **Contents**

#### **EXECUTIVE SUMMARY**

- E.1 DSC in the Competitive PV Marketplace
- E.2 DSC Industry Developments Since Last Year
- E.2.1 Better Prospects for PV?
- E.2.2 DSC Gains in Credibility, Sales and Big Company Support
- E.2.3 . . . and Better Technology, Too
- E.3 Emerging Markets and Niches for DSC
- E.3.1 The Need to Shift Beyond Solar Chargers
- E.3.2 Hope in BIPV
- E.3.3 Future Applications for DSC
- E.4 Summary of Eight-Year Forecasts for DSC

#### **CHAPTER ONE: INTRODUCTION**

- 1.1 Background to this Report
  - 1.1.1 Just How Good is DSC?
  - 1.1.2 DSC as Budding Industry
- 1.2 Objectives and Scope of this Report
- 1.3 Methodology of this Report
- 1.4 Plan of this Report

#### **CHAPTER TWO: DSC MATERIALS: STRATEGIES AND OPPORTUNITIES**

- 2.1 Trends in Performance Claims and Measures
- 2.2 DSC Performance
  - 2.2.1 Low-Light Efficiency
- 2.3 Developments in DSC Materials
  - 2.3.1 DSC Dyes
  - 2.3.2 DSC Electrolytes
  - 2.3.3 Developments in DSC Host/Catalyst Materials
  - 2.3.4 Developments in DSC Catalyst Materials
  - 2.3.5 DSC Electrode Materials: Cost Reduction Strategies
  - 2.3.6 DSC Encapsulation Materials
- 2.4 DSC and Printing
- 2.5 Analysis of Current and Future Strategies of Materials Firms in the DSC Sector
  - 2.5.1 BASF (Germany)



- 2.5.2 Dyesol (Australia)
- 2.5.3 Everlight Chemical (Taiwan)
- 2.5.4 Merck (Germany)
- 2.5.5 Peccell (Japan)
- 2.5.6 Showa Denko (Japan)
- 2.5.7 SolarPrint (Ireland)
- 2.5.8 Solaronix (Switzerland)
- 2.6 Key Points Made in this Chapter

#### CHAPTER THREE: DSC MODULES: STRATEGIES AND OPPORTUNITIES

- 3.1 Innovations in Cell Architectures
  - 3.1.1 Tandem Cells
- 3.2 Analysis of Current and Future Strategies of Modules Firms and Others in the DSC Sector
  - 3.2.1 3GSolar (Israel)
  - 3.2.2 Acrosol (Korea)
  - 3.2.3 ERG Renew (Italy)
  - 3.3.4 Fujikura (Japan)
  - 3.3.5 G24 Innovations (U.K.)
  - 3.3.6 Nissha Printing (Japan)
  - 3.3.7 NLAB Solar (Sweden)
  - 3.3.8 Oxford Photovoltaics (U.K.)
  - 3.3.9 Sony (Japan)
  - 3.3.10 Timo Technology and Dyesol-Timo (Korea)
  - 3.3.11 Toyota and Aisin Seiki (Japan)
- 3.3 Key Points Made in this Chapter

#### CHAPTER FOUR: DSC MARKETS AND FORECASTS

- 4.1 Forecasting Methodology
  - 4.1.1 Differences from Previous NanoMarkets Forecasts
- 4.2 Off-Grid Applications for DSC
  - 4.2.1 Beyond the Solar Calculator
  - 4.2.2 Battery Charging and Portable Electronics
  - 4.2.3 PV Anywhere: PV Textiles, Clothing, and Tarps
  - 4.2.4 Other Off-Grid Applications for DSC: Energy Harvesting, Sensors and Signs
  - 4.2.5 Some Notes on DSC Markets in Lesser Developed Nations
  - 4.2.6 Eight-Year Forecasts of Off-Grid DSC Markets



- 4.3 On-Grid Applications for DSC
  - 4.3.1 Utilities and Conventional Panels
  - 4.3.2 BIPV, Architecture, and DSC
  - 4.3.3 Eight-Year Forecasts of Off-Grid DSC Markets
- 4.4 Eight-Year Forecasts of DSC Materials
- 4.5 Summary of NanoMarkets' Eight-Year Projections for DSC Acronyms and Abbreviations Used In this Report ABOUT THE AUTHORs



# **List Of Exhibits**

#### LIST OF EXHIBITS

Exhibit E-1: Selected DSC Research Centers

Exhibit E-2: Summary of Eight-Year Forecasts of DSC Revenues (\$ Millions)

Exhibit 2-1: Champion OPV Cell Efficiencies

Exhibit 4-1: DSC Revenues for Off-Grid Applications

Exhibit 4-2: DSC Revenues for Grid-Connected Applications

Exhibit 4-3: DSC Materials Costs (\$ Millions)

Exhibit 4-4: DSC Market Development

Exhibit 4-5: Summary of DSC Related Materials (\$ Millions)



#### I would like to order

Product name: Dye Sensitized Cells: Materials, Applications and Opportunities - 2011

Product link: https://marketpublishers.com/r/D840B42A9EFEN.html

Price: US\$ 995.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer

Service:

info@marketpublishers.com

# **Payment**

First name:

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <a href="https://marketpublishers.com/r/D840B42A9EFEN.html">https://marketpublishers.com/r/D840B42A9EFEN.html</a>

To pay by Wire Transfer, please, fill in your contact details in the form below:

Last name:	
Email:	
Company:	
Address:	
City:	
Zip code:	
Country:	
Tel:	
Fax:	
Your message:	
	**All fields are required
	Custumer signature

& Conditions at https://marketpublishers.com/docs/terms.html

and fax the completed form to +44 20 7900 3970

To place an order via fax simply print this form, fill in the information below

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms

Dye Sensitized Cells: Materials, Applications and Opportunities – 2011