

# Materials, Applications and Opportunities within Organic Photovoltaics - 2011

https://marketpublishers.com/r/M0A82A72BB2EN.html

Date: April 2011

Pages: 73

Price: US\$ 995.00 (Single User License)

ID: M0A82A72BB2EN

# **Abstracts**

#### **Summary**

NanoMarkets has issued an update to this report (see here) in April of 2012. Clients can purchase the update as a stand alone item or they can purchase the 2011 report listed here and receive the update at no additional charge. Contact us with questions.

In this brand new report from NanoMarkets we provide a comprehensive examination of the marketplace, technologies, and manufacturing approaches in the organic photovoltaic (OPV) business. Starting with a look back over the past year, we identify where the long-term promises of OPV are beginning to be kept and where sustainable applications are emerging for this interesting solar technology.

This report also focuses on how both materials and solar panel manufacturers are changing their strategies to adapt to an environment in which OPV costs have failed to come down to point hoped for just a few years ago. Under this new circumstances can their ever be large enough revenues from OPV for it to be more than just a market niche or for OPV to continue to interest the large chemical companies that are now involved in it? And does OPV have enough going for it to break out of the limited world of solar chargers to become a viable BIPV technology?

Money continues to be invested in the OPV space and new companies have appeared in the past year or so. So the prospects for OPV seem good. NanoMarkets has been following the OPV space for five years and this new report contains our latest thoughts on this topic. The report also contains detailed forecasts broken out by materials, technologies and markets by volumes and dollars.



# **Contents**

### **EXECUTIVE SUMMARY**

- E.1 Can OPV Be Saved?
  - E.1.1 The OPV Continues to Face Major Challenges
  - E.1.2 DSC: New Threat to OPV?
- E.2 Changes in the Past Year: New Firms, New Materials and New Markets
- E.3 On LDCs and BIPV as Crucial OPV Markets
  - E.3.1 OPV and the Limits of Portable Power
  - E.3.2 OPV and LDCs
  - E.3.3 OPV and BIPV
- E.4 Summary of Eight-Year Forecasts of OPV Markets
  - E.4.1 Four Scenarios for OPV
  - E.4.2 OPV Fadeout and OPV Resurgent: Two Outlier Scenarios for OPV
  - E.4.3 A Moderate Development Scenario and Forecast for OPV

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

- 1.1 Background to this Report
- 1.1.1 Can OPV Get Serious: What Will It Take for OPV to Compete in the BIPV Space?
- 1.1.2 Prospects for Lowering the Costs and Raising the Performance of OPV
- 1.2 Objectives and Scope of this Report
- 1.3 Methodology of this Report
- 1.4 Plan of this Report

# CHAPTER TWO: IMPACT OF MATERIALS, MANUFACTURING AND CELL ARCHITECTURE DEVELOPMENT ON THE PROSPECTS FOR OPV

- 2.1 Current and Future OPV Efficiency/Performance Achievements: Impact on the OPV Business Case
  - 2.1.1 The OPV Industry No Longer Counts on a Cost Advantage
  - 2.1.2 OPV Efficiency: Improving, Lagging and (Maybe) Game Changing
  - 2.1.3 Other Ways of Judging OPV: Flexibility, Transparency and Low-Light Efficiency
- 2.2 OPV Materials Research Programs
  - 2.2.1 OPV Cell Architecture
  - 2.2.2 Tandem Cells
  - 2.2.3 Materials Choices for OPV



- 2.2.4 OPV with Inorganics: The New Hybrid Approaches
- 2.2.5 How Far Can New Materials Help the OPV Cause?
- 2.3 Can Printing Lower OPV Costs?
  - 2.3.1 Screen Printing and OPV
  - 2.3.2 Inkjet and OPV/DSC
  - 2.3.3 Other Printing Approaches
  - 2.3.4 The Role of Other Deposition Approaches in OPV
- 2.4 Prospects for the Use of Advanced Encapsulation Systems in OPV
- 2.4.1 Can Skimping on Encapsulation Pay off for Portable Chargers?
- 2.4.2 When Glass is Not Enough: Where Additional Films are Needed
- 2.4.3 Where Dyads and Other Advanced Encapsulation Solutions are Needed
- 2.5 Transparent Conductor Developments for OPV
  - 2.5.1 The Limitations of ITO in OPV
  - 2.5.2 Alternatives for ITO in OPV
- 2.6 Key Points Made in this Chapter

#### CHAPTER THREE: OPV SUPPLIER STRUCTURE

- 3.1 Materials Suppliers
  - 3.1.1 Agfa (Belgium)
  - 3.1.2 BASF (Germany)
  - 3.1.3 Heraeus (Germany)
  - 3.1.4 Merck (Germany)
  - 3.1.5 Plextronics (U.S.)
  - 3.1.6 Sumitomo (Japan)
- 3.2 Cell/Panel Suppliers
  - 3.2.1 Eight19 (U.K.)
  - 3.2.2 Global Photonic Energy
  - 3.2.3 Heliatek (Germany)
  - 3.2.4 Konarka (U.S.)
  - 3.2.5 Mitsubishi (Japan)
  - 3.2.6 Solar Press (U.K.)
  - 3.2.7 Solarmer (U.S.)

## **CHAPTER FOUR: OPV MARKETS AND FORECASTS**

- 4.1 Forecasting Methodology
- 4.1.1 Differences from Previous NanoMarkets Forecasts
- 4.2 Off-Grid Applications for OPV



- 4.2.1 Portable Electronics, Solar Chargers and OPV
- 4.2.2 OPV, Embedded Electronics, and Solar Textiles
- 4.2.3 Energy Harvesting, Sensors and Signs
- 4.2.4 Eight-Year Forecasts of Off-Grid OPV Markets
- 4.2 On-Grid OPV as a Platform for BIPV
- 4.2.1 OPV and BIPV Market Requirements
- 4.2.2 Eight-Year Forecasts of On-Grid OPV Markets
- 4.3 Eight-Year Forecasts of OPV Materials
- 4.4 Summary of NanoMarkets' Eight Year Projections for OPV

#### ACRONYMS AND ABBREVIATIONS USED IN THIS REPORT

#### ABOUT THE AUTHOR

#### LIST OF EXHIBITS

- Exhibit E-1: Scenarios for OPV Market Development
- Exhibit E-2: Summary of Eight-Year Forecasts of OPV Revenues (\$ Millions)
- Exhibit 2-1: Champion OPV Cell Efficiencies
- Exhibit 2-2: Prototypical OPV Structure and Materials
- Exhibit 2-3: Organic Solar Cell Manufacturing
- Exhibit 3-1: Agfa's Orgacon Line
- Exhibit 3-2: H.C. Starck PEDOT:PSS Materials
- Exhibit 4-1: OPV Revenues for Off-Grid Applications
- Exhibit 4-2: OPV Revenues for Grid-Connected Applications
- Exhibit 4-3: OPV Materials Costs (\$ Millions)
- Exhibit 4-4: OPV Market Development
- Exhibit 4-5: OPV Module Revenues (\$ Millions)



#### I would like to order

Product name: Materials, Applications and Opportunities within Organic Photovoltaics - 2011

Product link: https://marketpublishers.com/r/M0A82A72BB2EN.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**

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <a href="https://marketpublishers.com/r/M0A82A72BB2EN.html">https://marketpublishers.com/r/M0A82A72BB2EN.html</a>

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

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

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <a href="https://marketpublishers.com/docs/terms.html">https://marketpublishers.com/docs/terms.html</a>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970