

SUN & WIND ENERGY

Publishing company:

BVA Bielefelder Verlag GmbH & Co. KG
Richard Kaselowsky
Ravensberger Straße 10f
33602 Bielefeld, Germany
Phone: +49/5 21/59 55 14
Fax: +49/5 21/59 55 18

Publisher:

Hans-Jörg Kaiser

Editors:

Bärbel Epp (responsible),
Dr. Detlef Koenemann, Silke Funke,
Eva Augsten
Phone: +49/5 21/59 55 48,
Fax: +49/5 21/59 55 56
E-mail: baerbel.epp@bva-bielefeld.de
Website: www.sunwindenergy.com

Freelance authors:

In Germany: Johannes Bernreuter,
Jens-Peter Meyer, Joachim Zeitner,
Jörn Iken, Joachim Berner, Anke Müller
In India: Jaideep N. Malaviya
In the USA: David Kaufman
In China: Sven Tetzlaff, Zhengua Weng

Advertising:

Christiane Diekmann, Christine Michalsky,
Yvonne Brinkmann, Sandra Waschkowitz
Phone: +49/5 21/59 55 47,
Fax: +49/5 21/59 55 56
E-mail: Diekmann@bva-bielefeld.de

Sales & Marketing:

Uta Haffert, phone: +49/5 21/59 55 88
Fax: +49/5 21/59 55 07
E-mail: uta.haffert@bva-bielefeld.de

Advertising sales Italy:

Quaini Pubblicità, Linda Clerici
Phone: +39/02/39216180
Fax: +39/02/39217082
E-Mail: info@quaini-pubblicita.it

Advertising sales North America:

McNeill Group, Scott Sward, Philip Miller
Phone: +1/800/394/5157 ext. 16
Fax: +1/215/321/9636
E-Mail: ssward@mcneill-group.com,
pmiller@mcneill-group.com

Advertising sales China:

Sven Tetzlaff
Phone: +86/571/28028858
Fax: +86/571/28028860
E-Mail: mail@sventetzlaff.de

Sales & Marketing Manager:

Urich Fillies

Production Manager:

Dieter Lux

Layout:

Birgit Tschudi, Horst Krückemeier
Green Tomato GmbH, Bielefeld, Germany

Print:

Klingenberg Buchkunst Leipzig GmbH,
An der Hebemärchte,
04316 Baalsdorf/Leipzig, Germany
Website: www.Klingenberg-online.de
SUN & WIND ENERGY is an independent
journal published four times a year.
Subscription costs are 34 € per year
plus shipping costs (see page 165).
Material in this publication may not
be reproduced, reprinted or stored
in any form without the publisher's
written permission.

Banking account:

Dresdner Bank, branch Bielefeld
Bank code: 48080020
Account number: 0207301800
(for subscription)
Account number: 0207301801
(for advertising)

Translation:

Übersetzungsbüro Hartmann,
Chemnitz, Germany
Translations, Berlin, Germany
Jeremy Heighway, Leipzig, Germany
Mark Wigfall, Business English World,
Clausthal-Zellerfeld, Germany



Photo: Schirco

Double function in solar architecture: In the field of photovoltaics, the glass industry, cell and module manufacturers provide building designers and users with a huge range of opportunities, especially in the form of glass-glass modules. Find some selected examples of aesthetically pleasing and energy economic architecture on **Page 20**



Photo: Jörg Böttingh / agenda

Renewable energies in Indonesia: Indonesia is a country with an extremely diverse geography and culture, and the picture is no different when it comes to renewable energies. Geothermal power and small-scale hydropower are the most promising energy sources, wind energy and the solar branch are lagging far behind its potential. Ecologically damaging, however, is the massive subvention given to biofuels by the government. **Page 74**



Photo: Wilhelm Breuer

Best of ISH 2007: The international solar thermal sector presented itself self-confidently at this year's ISH 2007 from 6th to 10th March in Frankfurt, Germany. *Sun & Wind Energy* has put together the most important highlights of this technological feast. **Page 50**



Photo: Steca

Solar heating systems under control: Nowadays, controllers for solar heating systems can do more than just regulate the system. The manufacturers offer a multitude of models adapted to different system designs and demands. *Sun & Wind Energy* gives an overview about the principal European manufacturers, their sales and products. **Page 38**

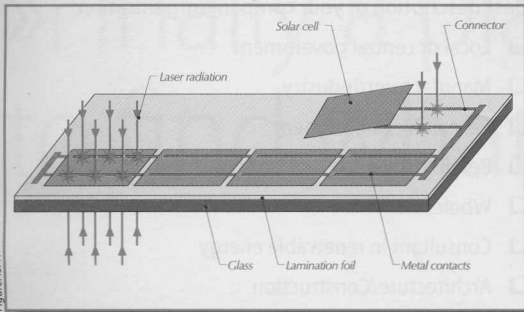


Figure: ISFH

Module production technology: Cost pressure and thinner cells are driving forward the development of module production technology. Long-term guarantees for solar modules are still impeding the implementation of new standards. Manufacturers, meanwhile are able to order the necessary production machines from automation specialists. Read more about the newest developments in module production on

Page 92, 102



Photo: ESY

The pellet industry is becoming more international: At the beginning of March experts from 61 countries came together in Wels, Austria, at the European Pellet Conference, to discuss markets, prices and alternative raw materials for pellets and their ever more important role in energy supply.

Page 160

Sunrise industry in India: The Indian solar thermal market is receiving strong support. Ambitious national targets, solar obligations at a federal level and specifically targeted support by some local authorities together form a bundle of measures which are strongly pushing the market forward. The solar thermal manufacturers are now reaching a size at which they can also consider engaging in export activities.

Page 66



Photo: Pilz

Wind speed measuring: Currently there are still thousands of cup anemometers in use around the world, investigating future wind power sites. New measuring masts continue to be erected worldwide and more and more wind power experts and meteorologists are looking at improving acoustic and optical remote sensing, however: Sodar and lidar provide more opportunities.

Page 152

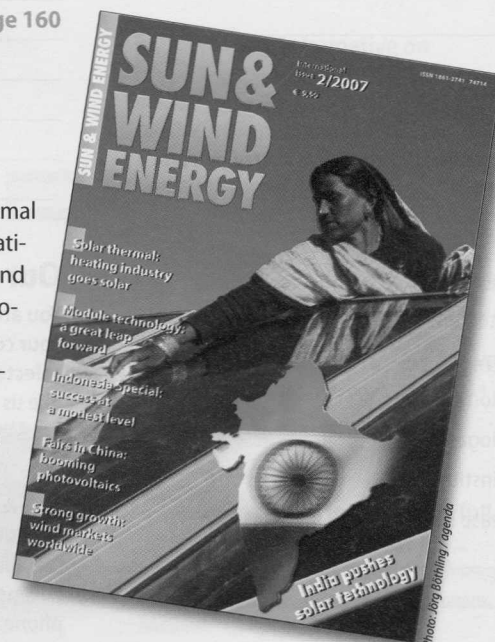


Photo: Jörg Böhling / Agenda

■ **Review**

- 7 Reader's opinion
- 8 Repower takeover: poker in Hamburg
- 10 Change at the helm of ESTIF
- 12 Feed-in tariffs: less bureaucracy
- 14 International fairs

■ **Solar Architecture**

- 20 Glass-glass PV modules: double function in double glazing

■ **Solar Energy**

- 30 Foundations for renewable energies
- 32 Desalination by means of wind and sun

■ **Solar Thermal**

- 38 Solar thermal controllers in Europe: under control
- 50 Fair highlights: best of ISH 2007
- > 60 Heating technology companies capture the solar market
- 66 Sunrise industry in India

■ **Indonesia Special**

- > 74 Renewables in Indonesia: modest success

■ **Photovoltaics**

- 86 Mediterranean countries: low speed and hiper speed
- > 92 Module production technology: ready to leap forward
- 102 Module production lines: suppliers at a glance
- 106 Simulation of hybrid systems: an overview
- 112 Concentrating technology: focus on cost advantage
- 124 International market survey: competition in the inverter sector
- 134 Intersolar 2007: world class exhibition
- > 140 Fairs in China: booming photovoltaics
- 146 The inner life of a battery

■ **Wind Energy**

- 152 Wind speeds: measuring without a mast
- > 156 Market overview of wind turbines

■ **Biomass**

- 160 Pellet markets and prices are booming

■ **Department**

- 6 Oder a free copy
- 165 Subscription Service
- 166 Directory