

# SUN & WIND ENERGY

## PHOTOVOLTAICS

A trend towards  
small inverters

## SOLAR THERMAL

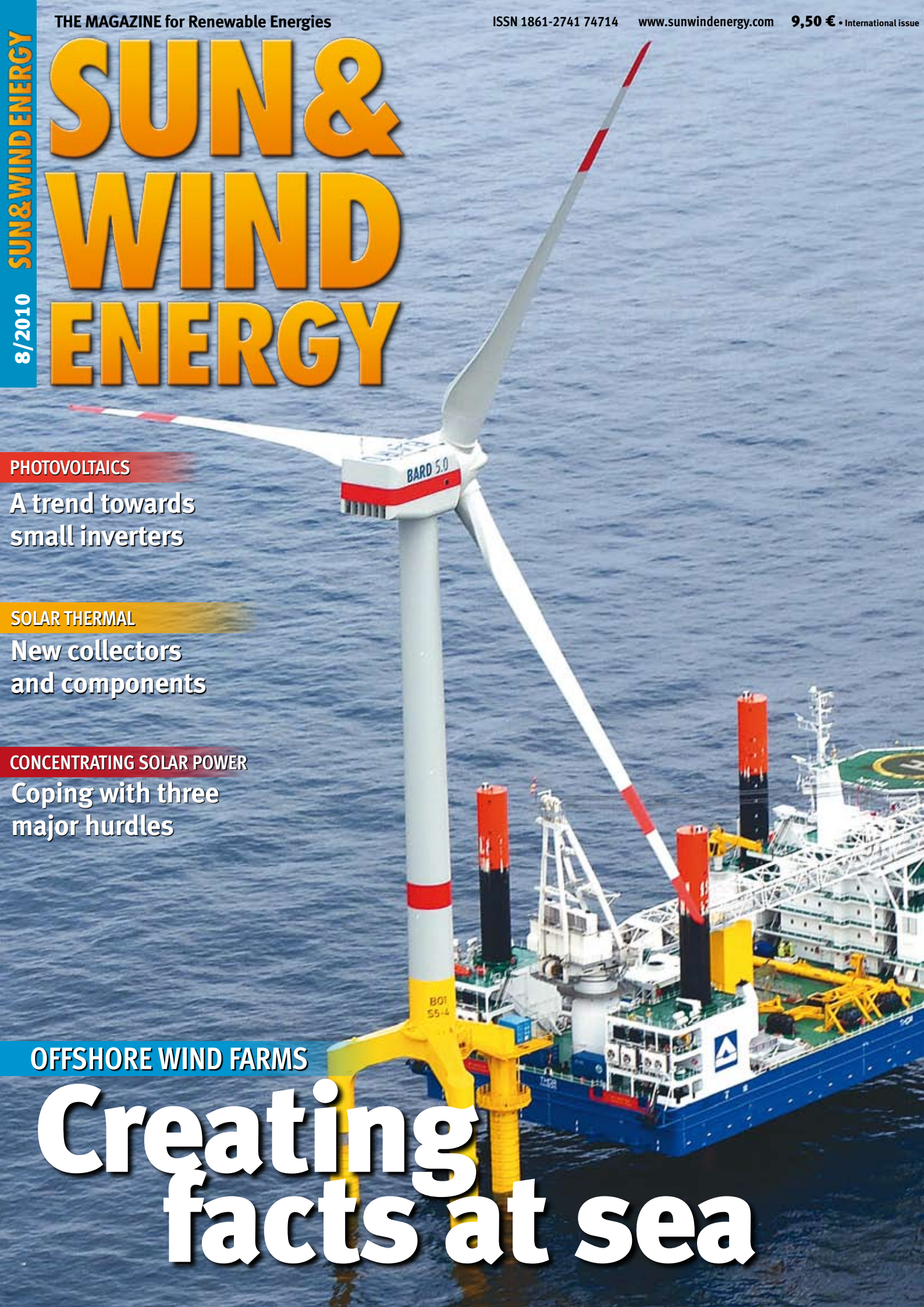
New collectors  
and components

## CONCENTRATING SOLAR POWER

Coping with three  
major hurdles

## OFFSHORE WIND FARMS


# Creating facts at sea





# International NEWS

## Mass production of organic solar cells is within reach

 The Danish research institute Risø DTU and the Danish company Mekoprint A/S have jointly put into operation a pilot line for the industrial production of polymer solar cells. The production costs of the organic solar cells from this pilot plant are a good 5€/W.


The cells produced have an efficiency of 1%. On enquiry, Risø DTU explained that the fairly high costs are only a preliminary value because a two to threefold increase in cell efficiency is feasible with the present know-how. Furthermore, economies of scale do not take effect in a pilot plant.

Organic solar cells are simply printed in a roll-to-roll process. The pilot plant produces only parts of the cells, such as the photoactive layer. Thus, the line is also the

limiting factor for mass production, since all the other production steps are carried out on existing Mekoprint production lines. All of these steps are performed at normal atmospheric pressure and at moderate temperatures of 150 °C at most. At present, production is focussing on constant and predictable quality.

In the first laboratory tests, a lifespan of 1,000 hours could be measured. Tests under field conditions are currently in progress, but have not yet revealed any signs of degradation. For these tests, the cells are encapsulated using the materials that are common in the solar industry (glass, EVA, Tedlar, etc.). It is not yet possible to specify cell life under realistic conditions since such tests, by nature, take a lot of time.

## Silfab to build 120 MW facility in Ontario

 The Italian photovoltaic company Silfab S.p.A. announced that it will build a 120 MW manufacturing plant for poly- and monocrystalline modules in Ontario, Canada. The plant will be built in two stages, of which the first 60 MW part will be completed by the second quarter of 2011. The second 60 MW stage will be completed by the end of 2011. The produced modules will be suited for ground and rooftop installations and have a power of up to 300 W.

The first production line will be installed by the end of the summer, whereas manufacturing operations will start by end of 2010 or beginning 2011. Meanwhile, the


training of the personnel will be conducted in Silfab's European facility.

The new facility in Canada is part of Silfab's plan for a green-to-green PV supply chain. The facility is meant to be powered completely by hydroelectric power. According to Silfab, each kWh of hydroelectric power will be transformed to 15 kWh of solar power during the lifetime of the produced solar panels. The modules are primarily produced for the Canadian market, but will also be distributed in the United States due to a joint venture with New York based REgeneration Finance, a developer of solar energy projects.

Organic solar cells are printed, which provides potential for a very low production price.

Photo: Risø DTU

## "Solar for All" presents awards

 At the Intersolar North America in San Francisco, the "Solar for All" initiative announced the winners of its contest. The prizes were awarded for innovative PV solutions for off-grid energy supply. The initiative "Solar for All", which was founded by the Canopus Foundation and Ashoka, has a global network of partners. Its aim is to provide affordable solar energy supply to people with no access to the electricity grid. The initiative is supported by an international consortium of more than 50 organizations, including the German Fraunhofer ISE.

For the contest, the initiators spent half a year looking for the best and most innovative solutions for off-grid electricity supply. A total of 58 companies and organizations from 29 countries took part. The requirement: affordable technology and a convincing strategy for market launch. The winner is the company Greenlight Planet, which receives an investment of US\$ 250,000 from the Deutsche Bank Americas Foundation. Its President Gary Hattem says about the winner: "We are impressed by their focus on developing a sustainable business serving the lower levels of the population pyramid in India. Greenlight Planet's concept combines affordable products with a truly innovative approach to reaching the poorest residents of the most rural communities." The company Kaito Energie AG was the runner-up and thus received € 10,000 from the investor Good Energies. Eicke Weber, the Chairman of the Jury and Director of the Fraunhofer ISE, emphasizes: "Kaito's long-term vision of electrifying Senegalese villages and their step-by-step approach to reaching the goal is impressive." Finally, the award of the ERM Foundation was presented to Promethean Power Provider. "We are pleased to be able to support the Solar for All Design Contest with a technical prize to Promethean," says Emma Caddy, Director of the ERM Foundation.

For 2011, it is planned to launch a solar investment fund. According to the initiators, the contest has yielded a wide choice of projects and companies that are eligible for investment from the fund.