

## "renewables made in Germany" Newsletter September 2009

Dear Madam, Dear Sir,

Thank you for your interest in German renewable energy technologies and welcome to the third edition of the "renewables made in Germany" newsletter in 2009. This service is brought to you by the Deutsche Energie-Agentur GmbH (dena) – the German Energy Agency, supported by the German Ministry of Economy and Technology.

Today's issue features articles on the following topics:

- Current developments in the field of renewable energy around the world
- Interesting projects and applications in renewable energy
- State-of-the-art German technologies and services for the use of renewable energy sources
- Opportunities and events in the field of renewable energy

We hope you enjoy reading this issue.

The Renewable Energies Division of dena.

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### 1. Company initiative looking to produce solar energy on large scale

Solar thermal power plants in northern Africa are expected to deliver 15 per cent of European power within 40 years time. That is the goal of the Desertec Industrial Initiative (DII) that was founded in mid-July. Twelve companies, mainly from Germany, including banks, energy companies, project and insurance companies, signed a memorandum in Munich in mid-July in which they agree to found a planning company. The

company has been given three years time to develop the investment planning for the construction of the power plants.

According to the DII initiators, studies carried out by the German Aerospace Center show that in no more than 40 years time, solar thermal power plants in desert areas could be competitively producing more than half of the power needed in the EUMENA region, which covers Europe, the Middle East and North Africa. The construction of the power plants would also have a positive effect on the employment rate. A study by the Wuppertal Institute for Climate, Environment and Energy comes to the conclusion that building and putting these power plants into operation would require the labour and services of up to 582,000 people from around the world.

The founding members of DII include MAN Solar Millennium GmbH and Schott Solar AG. Both of these German companies have many years of experience in the construction of solar thermal power plants. Solar Millennium AG, the parent company of MAN Solar Millennium, for example, initiated and developed the two parabolic trough designed power plants Andasol 1 and 2 in Spain. Schott Solar manufactured the receiver for the pilot power plant that is already feeding power into the Spanish high-voltage grid.

More Information: [www.desertec.org](http://www.desertec.org)

## 2. IRENA will have three locations

Abu Dhabi will be the headquarters of the International Agency for Renewable Energy (IRENA). The organisation's innovation and technology centre will be located in Bonn; Vienna will have the liaison office to maintain contacts on questions of energy to the UN and other international organisations. Germany will provide four million euros to build up the centre in Bonn and will support the centre with a further two to three million euros per annum.

The goal of the new agency is to close the global gap between the enormous potential offered by renewable energy sources and their still very small share of the market. Commissioned by governments from around the world, IRENA is meant to be the driving force behind the global transition to renewable energy sources. It is the first international organisation that focuses exclusively on alternative energy supplies. One of its main tasks will be to advise member states on how to set up and improve the parameters for renewable energy. Focus also will be on the creation of relevant skills, financing and technology and knowledge transfer. IRENA was founded in January 2009 on the initiative of the German government by 50 states. To date, 136 countries have signed the statutes of the organisation.

More Information: [www.irena.org](http://www.irena.org)

## 3. Start for the construction of wind energy parks at sea

On 10 July, work started on the power lines for the first German offshore wind park in the Baltic Sea. The wind power station "Baltic 1" is scheduled to start feeding power into the German power grid next year. In order for the wind-generated power from the Baltic Sea to reach consumers in the south and west of Germany, it will be necessary to expand the grids. To this end the Federal Ministry of Economics has introduced the Law on the Expansion of the Energy Grids (Energieleitungsausbaugesetz - EnLAG). It simplifies the planning and approval procedures for power grids as well as their connection to offshore power sources.

## 4. India set to expand the role of solar power

The Indian government, working within the framework of its climate protection programme, has set ambitious goals for the use of solar power. By the year 2020, the Indian government wants to increase the installed capacity from the current 100 to a total of 20,000 megawatts. The National Solar Mission envisages that photovoltaic roof panels and systems will help in the electrification of rural areas by supplying around 3,000 megawatt each. Photovoltaic and solar thermal power plants will supply a total of 12,000 megawatts. India wants to invest a total of over 13 billion euros over the next 30 years both in the expansion of the solar market and in research and production.

The plan is meant to help secure the country's future energy supplies. Roughly half the population – more than half a billion people – and especially those, who live in rural areas, do not have any direct access to electric energy. In addition, India's power industry is dependent on coal. Almost two-thirds of the power

produced in the country comes from coal-fired power plants. Renewable energy sources, mainly wind-powered production, provide around nine per cent of the country's power. This share is to be increased largely through the expanded use of solar energy.

## 5. Concentrated sunlight for power production

Solar *thermal power plants* bundle sunlight to produce steam which powers the turbines just as is done in regular power plants. *Tower power plants* use mirrors to concentrate the solar radiation on a receiver installed in the tower, *thermal trough power plants* use parabolic or Fresnel mirrors to focus the light on an absorber tube. Since warmth can be easily and economically stored, solar thermal power plants can use stored energy to produce power on cloudy days or at night.

The fact that this technology works has been proven since the 1980s when commercial parabolic trough systems were set up in the deserts of California. These types of power plants have recently also started delivering electric power in Spain and Nevada. Worldwide, new power plants with a total capacity of over 2,000 megawatts are currently on line, under construction or in the planning stages. Companies from Germany have the necessary experience in the planning of these types of power plants and produce components such as receivers, mirrors and turbines.

A German research institute, the German Aerospace Center, has been instrumental in the development of this technology over the past few decades. In addition, a research tower power plant was recently put into operation in Jülich near Aachen. The development of solar thermal power plants has a long tradition in Germany. Already in 1907, two German scientists in Stuttgart registered a patent for a parabolic trough collector.

More Information: [www.renewables-made-in-germany.com/en/solarthermische-kraftwerke](http://www.renewables-made-in-germany.com/en/solarthermische-kraftwerke)

## 6. German solar roof installed in Costa Rica

Since June, solar panels have been providing the German school Colegio Humboldt in San José, Costa Rica with power and heat. The five systems serve as a model for the use of modern solar technology. A photovoltaic system on the school roof covers a part of the school's power needs. A solar lantern provides light for the street in front of the school entrance, a second one lights the sports field. In addition, two further solar systems produce warm water for the school's kitchen and canteen as well as for the showers in the gym. The systems were delivered by the German companies Steca Elektronik GmbH and Sunset Energietechnik GmbH within the framework of the German Energy Agency's Solar Roof Programme. Since 2004 this programme has been helping German solar technology companies to enter into new markets.

More Information: [www.solardach-costarica.de/en/partners.html](http://www.solardach-costarica.de/en/partners.html)

## 7. Solar systems from Germany function under the extreme conditions of the Antarctic

The fact that solar systems can produce wonderful warmth even in the extreme cold is proven by two solar thermal systems at the polar station "Princess Elisabeth" in the Antarctic. The systems, manufactured by Consolar Solar Energiesysteme GmbH ensure that the Belgian research station, that was opened in February, gets its heating and hot water from renewable energy sources. The outside temperatures go as low as minus 50 degrees Celsius and there are wind gusts of up to 250 kilometres per hour – the solar systems must be able to handle these extreme climatic conditions in order to fulfil the needs of the 48-man team of scientists stationed there. Vacuum tube collectors supply sufficient heat even under extreme climatic conditions. The specialised way in which they are built with flat connections means that the snow can slide down off the collectors even in heavy storms so that the tubes are not damaged even by extreme frost.

## 8. Report: The German Market for Biomethane

"The German Market for Biomethane" is a two-part report providing the key facts on the development of the market for the upgrade and feeding of biogas into the German natural gas network. In part one, the report provides valuable information on German political parameters, business models, market players and injection projects. Part two offers the results of a 2008 market survey and provides an overview on the

spectrum of technologies currently available and soon to be available on the market throughout Europe. The report is an excellent tool for international project developers and decision makers.

To order, please visit [www.dena.de/en/topics/renewable-energies/publications/publikation/biomethane-report/](http://www.dena.de/en/topics/renewable-energies/publications/publikation/biomethane-report/)

## 9. "renewables - Made in Germany" - Products and Services

German renewable energy technologies have an excellent reputation both at home and abroad. Many years of experience and countless references around the world make "renewables made in Germany" a reliable source to meet your project needs. The website [www.renewables-made-in-germany.com](http://www.renewables-made-in-germany.com) provides information about German renewable energy industries, companies and products.

## 10. Get in Touch - "renewables - Made in Germany" Business Trips

Are you looking for contacts with experienced German companies in the renewable energy sector, or more information about renewable energy technology from Germany? If so, the German Chamber of Commerce (AHK) in your country may be able to help. As part of the "renewables made in Germany" programme, delegations of German business representatives from the renewable energy sector travel to all parts of the world to showcase their expertise and products and to explore possibilities for future cooperation. Each event includes a one-day seminar where you receive information about current developments in renewable energy technology and the products of the German companies that are represented. If you would like to get in touch with individual companies, the German Chamber of Commerce Abroad in your country has the ability to act as a liaison.

The following table shows all the dates and countries that are part of the trade mission for 2009 / beginning of 2010. If you are interested in attending one of these events or require more information, please contact the relevant German Chamber of Commerce Abroad: [www.ahk.de](http://www.ahk.de).

For more information please contact: [renewables@dena.de](mailto:renewables@dena.de)

### "renewables made in Germany" business trips

Target Market	Location	Period	Seminar/ Presentation	Technology
Slovenia	Ljubljana	2009-10-05- 2009-10- 2009	2009-10-06	Biomass, Biogas
Venezuela	Caracas	2009-10-05- 2009-10-09	2009-10-06	Solarenergy, Windenergy, Bioenergy
Indonesia	Jakarta	2009-09-12- 2009-10-15	2009-10-13	Biomass, Biogas
Norway	Oslo	2009-10-26- 2009-12-28	2009-10-26	Biogas, Biomass
Slovakia	Bratislava	2009-10-26- 2009-10-30	2009-10-26	Solar thermal, Photovoltaic
Oman	Maskat	2009-11-02- 2009-11-04	2009-11-02	Solar energy
Rumania	Bukarest	2009-11-02- 2009-11-06	2009-11-03	Solar thermal, Photovoltaic

Target Market	Location	Period	Seminar/ Presentation	Technology
New Zealand	Auckland	2009-11-03- 2009-11-05	2009-11-03	All technologies
Peru	Lima	2009-11-09- 2009-11-13	2009-11-10	Wind energy, Hydropower, Solar energy
USA - Chicago	Chicago	2009-11-09- 2009-11-13	2009-11-10	Wind energy
Baltic's	Vilnius	2009-11-16- 2009-11-20	2009-11-17	Biomass, Biogas
Israel	Tel-Aviv	2009-11-16- 2009-11-20	2009-11-18	Solar energy
Central America	San José, Costa Rica	2009-11-16- 2009-11-20	2009-11-17	Solar energy, Hydropower, Wind energy
Portugal	Lisbon	2009-11-23- 2009-11-25	2009-11-24	Solar thermal , Wind energy
Spain	Madrid	2009-11-24- 2009-11-27	2009-11-24	Biogas, Biomass
Italy	Rom	2009-11-30- 2009-12-04	2009-12-02	Solar energy
France	Paris	2009-12-03- 2009-12-04	2009-12-03	Heat pumps
Algiers	Algiers	2010-01-15- 2010-01-27	2010-01-25	Solar energy

## 11. The German Federal Ministry of Economics and Technology Takes "Renewable Energy Technologies" Abroad

Another opportunity to make contact with German companies in the renewable energy technology sector is to attend the trade fairs organized by the German Federal Ministry of Economics and Technology. Visit the German community booth to speak directly with German companies and receive information about the latest technologies!

Date	Location	Fair
2009-10-07– 2009-10-09	Taipei, Taiwan	Photovoltaic Forum & Exhibition
2009-10-27– 2009-10-29	Anaheim / California (USA)	Solar Power International
2009-10-15– 2009-10-18	Riga, Latvia	Environment Energy Ecology
2009-11-03– 2009-11-07	Buenos Aires, Argentina	BIEL light + building BUENOS AIRES

Date	Location	Fair
2009-12-09– 2009-12-11	Montpellier, France	ENERGAIA - International Renewable Energies Exhibition

## 12. dena's Subsidy Overview: EU-27 Photovoltaic and REN Heat

The dena-Subsidy Overview EU-27 – Photovoltaic and the dena-Subsidy overview EU-27 - REN Heat provide information about existing subsidy programmes for photovoltaic use and renewable heat-generating technologies in the EU-Member States. Each overview provides readers with detailed, valuable information about policy design possibilities and regulatory framework conditions for each subsidy programme.

### Subsidy Overview EU-27 Photovoltaic: Important developments in Greece, Sweden and Slovenia

The dena Subsidy Overview EU-27 – Photovoltaic provides information on existing subsidy programmes for the use of photovoltaics in the EU Member States. It is presented in a concise table with valuable details on the regulatory framework and how the subsidy programme could be used.

A new programme providing support for small rooftop PV installations has been introduced to mainland Greece, with particularly high payments for the input of solar electricity into the grid and additional tax relief. In the next phase, this programme will be extended to the Greek islands.

Sweden introduced a new grant programme in July which no longer targets public buildings alone, but is available to the operators of all PV systems.

The feed-in tariffs in Slovenia have been completely overhauled and are expected to come into effect in autumn 2009 once the European Commission has given its approval. Under the programme, the owner will still be able to choose between a guaranteed purchase price and a bonus on top of the market price. The most important alterations include a prolongation of the tariff period and a differentiation for payment purposes between type of installation and size of system.

The August issue of dena's EU 27 photovoltaic subsidy overview provides information on these and other amendments in Austria, Belgium, Cyprus, the Czech Republic, Denmark, Germany, France, Hungary, Italy, Latvia, Lithuania, Malta, the Netherlands, Portugal, Romania, Slovakia, Spain and the United Kingdom.

More Information: [www.dena.de/en/infos/publications/publikation/eu-27-photovoltaic](http://www.dena.de/en/infos/publications/publikation/eu-27-photovoltaic)

### Subsidy Overview EU-27 – REN Heat: News from Sweden, Slovenia and Portugal

The fourth edition of dena-Subsidy Overview EU-27 – REN Heat helps the reader to follow developments on the European markets for heat from renewable sources and to make a reliable assessment of the economic opportunities and threats.

In Sweden tax relief has been introduced for refurbishment works and upgrades to houses which can be applied for in the annual tax return. This means that homeowners can offset the cost of a heat pump installation, for example, from their income. On the Slovenian front, two new public calls for tender have been issued for woody biomass under the country's operative programme for the development of environmental and traffic infrastructure for the period 2007-2013.

In Portugal, the government has launched an incentive programme for solar-thermal energy offering subsidies for the purchase and installation of solar thermal systems. A loan with special preferential rates is also available for the remaining cost of the system.

The August 2009 issue of dena's EU-27 renewable heat subsidy overview provides information on these and other amendments in Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Finland, Greece, Italy, Lithuania, Luxembourg, the Netherlands, Romania, Slovakia and the UK.

More Information: [www.dena.de/en/infos/publications/publikation/eu-27-renewable-heat](http://www.dena.de/en/infos/publications/publikation/eu-27-renewable-heat)

### 13. WindAR 2009 – South America’s strong wind energy event and exhibition will take place on November 17th 2009 in Buenos Aires

In Argentina 500MW of wind power are now in tender. Single projects of more than 1000 MW capacity each are in progress. According to the national law 26.190, by 2016 an 8% of the electricity must be supplied by renewable resources. Approximately 50% will be provided by wind energy. In Uruguay, government will confirm tenders for more than 250 MW this year. In Chile 200 MW will get access to the grid within one year in addition to projects of more than 2000 MW that are in pipeline right now. In Sao Paulo, 13.000 MW capacities have been presented to the biggest wind energy tender in Brazilian history. There is no doubt that in the MERCOSUR region wind power is the most successful alternative.

Despite this awakening, as well as all positive signals given by policy makers, there are still some doubts concerning network capability, compensation mechanisms and financing. WindAR 2009 focuses on these topics. International grid experts, technology providers and project developers together with policy makers will discuss on November 17th 2009 possible solutions to place wind energy as a cost-effective and sustainable form of electricity generation with even faster breakthroughs.

More information: [www.windar.com.ar](http://www.windar.com.ar)

### 14. New RENAC program supports key areas of employee training

Most companies in the renewables sector recognize that meeting the specialized training needs for new employees is highly expensive both in terms of time and cost. The courses of the Renewables Academy (RENAC) are designed to provide essential support - for internal staff training, international ventures or individual learning. They aim to support organizations in a challenging market environment. In addition to the existing courses on photovoltaics and solar thermal energy, the newly published programme of English-language courses for the second half of 2009 has been extended to include energy efficiency and wind power. RENAC also undertakes customized seminars on request; these can be arranged either in-house or in the RENAC Training Center in Berlin.

More information: [www.renac.de/index.php?id=4&L=1](http://www.renac.de/index.php?id=4&L=1)

### 15. Useful Links

ManagEnergy is an initiative of the European Commission Directorate-General for Energy and Transport, which aims to support the work of actors working on energy efficiency and renewable energies at the local and regional level. The main tools are training, workshops and online events:  
[www.managenergy.net/index.html](http://www.managenergy.net/index.html)

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### Service and editorial information

For more information about German technologies and manufacturers in the renewable energy industry, see our website [www.renewables-made-in-Germany.com](http://www.renewables-made-in-Germany.com).

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