

"renewables made in Germany" Newsletter July 2008

Dear Madam, Dear Sir,

Thank you for your interest in German renewable energy technologies and welcome to the first 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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<http://www.renewables-made-in-germany.com/en/newsletter> .

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1. Federal Cabinet Decides on German Strategy for Adaptation to Climate Change

The Federal Governments main aim concerning climate policy is to limit the increase in mean global temperature to less than 2°C above pre-industrial levels. However, even with a successful policy, the climate change taking place can already be expected to have an effect. That is why on December 17, 2008 the Federal Cabinet decided upon the German Strategy for Adaptation to Climate Change creating a framework for adjusting to the impacts of climate change in Germany.

In pursuit of an integrated approach to assessing risks, the need to take action and ways of supporting sustainable development, the strategy is meant to provide guidance for other actors. It lays the foundation for a medium-term, step-by-step process undertaken in cooperation with a wide range of different actors in

the field. On this basis, appropriate goals will be defined and adaptation measures will be developed and implemented.

The strategy contains a summary of the current status of knowledge on the anticipated climate change and the impacts these could entail both globally and in Germany. Possible climate impacts and options for action are highlighted for 15 spheres of activity and selected regions. In addition, the strategy describes the international context and the German contribution to adaptation in other parts of the world, and explains the next steps for further developing the German Adaptation Strategy.

An inter-ministerial working group with representatives from all ministries will be established to draw up an "Adaption Action Plan" in cooperation with the federal states to further specify the strategy. The Federal Government aims to present the final results by March 2011.

Adaptation on the European level is also included in the political objectives and has been incorporated into the updated European Climate Change Programme (ECCPII). After the publication of a green paper on "Adapting to Climate Change in Europe – options for EU action" in June 2007, the European Commission has announced that a white paper with more specific proposals for initiatives will be submitted in mid-2009.

More information: www.bmu.de/english/climate/downloads/doc/42841.php

2. New National Act on the Promotion of Renewable Energies in the Heating Sector since January 1, 2009

The beginning of 2009 marks the implementation of the new Act for the "Promotion of Renewable Energies" in the German heating sector. This way, the German government aims to double the share of renewable energies in heating from 7 to 14% by 2020. This ambitious target is to be reached with certain obligations on the one hand and sponsoring on the other. All new buildings, whether private or commercial, have to obtain part of their heating from renewable sources. This would be a minimum of 50% when using solid biomass, vegetable oil (no palm or soya-oil), geothermal or environment heating and with a minimum of 15% when using solar energy.

Instead of focusing only on one energy source, real estate owners can also combine several technologies. Heating can also be covered by co-generation or from residual heat. New buildings that are 15% below the energy level regulated in the Energy Saving Directive (EnEV) are exempt from the new rules. The new law was introduced together with a market stimulation packet of €500 million to finance the heating grid and the latest heating technologies.

More Information: <http://www.erneuerbare-energien.de/inhalt/42205/36356/>

3. Electric Mobility in Germany

Since winter 2008 the German government has initiated a plan supporting electro-motorization in Germany. The so-called "National Development Plan of Electro Mobility" aims to reduce CO2 emissions by promoting eco-friendly cars.

Most of the models already existing on the market still lack efficiency and provide power for driving only small distances. Therefore, German car makers focus on electro-cars through a power socket or special power dispenser, extending the car's power duration to up to 150 km. An additional combustion machine in the car, a so-called Plug-in-Hybrid, can make the car go an additional 350 km.

The advantages of electro-cars are their more efficient engine which needs less power and is noise-reduced compare to combustion engines. If the electricity originates from renewable energy sources, the vehicles are almost CO2 free.

According to statistics, the average car is parked around 23 hours per day. This means its battery could also serve as storage for spare power, provided by wind or other energy sources. This way, the cars can be used as a device, helping to manage the load balance of the grid. Another way of looking at this is the "Vehicle-to-Grid" operation. At times of high power consumption, the electricity of a few car batteries is going to be loaded into the general grid, making more power available to the public.

In promoting the new electro-cars, manufacturer will have to concentrate on the nature of the battery itself. At the moment it is expensive, heavy and takes hours to load. Consumers are having a hard time to compensate low consumer costs with the high expenses for the battery itself.

All told, the energy management of the government is highly effective in promoting this new form of mobility. Energy and car taxes linked to CO2 emissions, as well as driving restrictions in the inner city area, are going to boost the coming of the electro car.

4. TREE Project of RENAC: Committed to Accelerate the Implementation of Renewable Energy and Energy Efficiency Globally

Over 300 engineers and decision makers from 14 countries are currently studying renewable energy and energy efficiency topics in the context of the TREE project ("Transfer Renewable Energy & Efficiency") in Berlin. TREE is initiated by the "Renewables Academy" (RENAC) and funded by the International Climate Initiative of the German Ministry for the Environment, Nature Conservation and Nuclear Safety, following a decision by German Parliament.

As a provider of continuing education in renewable energy, RENAC has specialized in spreading German know-how internationally, so as to accelerate the building of a global climate-friendly energy supply infrastructure. Therefore it provides international training in renewable energy, energy efficiency and climate protection. RENAC offers a wide variety of courses in photovoltaic, solar bio-energy and energy efficiency technologies, which cover all stages of the value-added cycle for energy.

In TREE, tuition in political and economic strategies takes place side-by-side with the technical training in the RENAC Training Center, where components for solar thermal, photovoltaic and energy efficiency exercises from leading German manufacturers are available.

More information: www.tree-project.de - www.renac.de

5. Record High Funding for German Research in the Field of Renewable Energy

Record High Funding for German Research in the Field of Renewable Energy

In 2008 the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety spent 150 million Euro on 170 new research projects in the field of renewable energy 50% more than the year before. Emphasis has been laid on wind energy and photovoltaics. Projects with these technologies were each awarded 40 million Euro funding. For example the new Fraunhofer Institute on research in wind energy has been established, which is meant to make Germany a key player in this field.

Around 30 million Euro have been spent on the core research theme "system integration" finding ways to feed rising amounts of electricity generated by wind energy into the grid.

The Federal Ministry of Economics and Technology (BMWi) funded 200 projects in the field of energy efficiency in 2008. Overall the BMWi spent 230 million Euro in energy research. Core themes of research are energy efficient technologies in trade and industry, modern power plant technologies, fuel cells/hydrogen and energy optimization in the building sector. In 2009 the Ministry plans to support projects in this field with additional 15 million Euro.

6. Founding Conference of the International Renewable Energy Agency (IRENA)

The founding conference of the "International Renewable Energy Agency IRENA" was held on 26 January 2009 in Bonn. Over 120 governmental delegations from 75 different nations, ranging from developing to industrialized countries, participated to promote a sustainable future-oriented energy supply. The event was chaired by the German Environment Minister, Sigmar Gabriel, and the Minister of Economic Cooperation and Development, Heidemarie Wieczorek-Zeul. After signing the Agency's statute, the work began only one day after the ceremony, on January 27, 2009. The Preparatory Commission came together in order to select the criteria and procedures for electing the first interim Director-General and the interim headquarter. The members are now to prepare their candidatures by April 30, 2009. Furthermore, a framework was established for the first working programs and will be further developed between February and June 2009. Egypt has invited all signatories to the next session scheduled to take place in Cairo.

More information: www.irena.org

7. New Opportunities in Renewable Energy in Latin America

Latin America is one of the most oil-dependent regions worldwide. Around 40 to 80% of the primary energy need is covered by the oil combustion in generators. Due to the current financial crisis, some countries reduced financial support dramatically, causing the simultaneous limitation of necessary investments in grid expansion. As a result, these countries are facing a severe energy crisis. Alternative energy sources, such as wind energy, geothermal energy or biomass are more attractive than ever these days.

Argentina, for instance, features a constantly growing energy demand that its current oil and gas reserves will not satisfy in the long run. According to estimates the power consumption is expected to increase 3,2 to 5,6 % annually until 2020. Argentina's enormous potential for wind energy and biofuel could be a solution to the current energy problem. Patagonia, for instance, is said to have one of the world's highest wind-speed measurements and can therefore yield very high power revenues. As with the production of biofuel, the country's natural conditions offer many advantages.

Mexico, Latin America's biggest national economy, still depends to 70% on oil. As a result, the Mexican Parliament outlined a new law, promoting renewable energy. According to the new Act, 8% of the entire energy consumption is supposed to come from sustainable energy sources in the future. Mexico's potential in renewable energies is estimated to be very high.

During the 1970's, Brazil was already looking for alternative energy sources and raised its sugar cane production to supply new bio-ethanol manufacturing plants. Today, around 70% of the biofuel production worldwide is coming from Brazil and the U.S.

The potential for renewable energy in Latin America has long been recognized by the different governments. To date main focus has been laid on water power and bio-ethanol. However, exploiting only a few energy sources runs the risk of creating an unstable supply. The unstable local energy supply and current oil limitations can be dangerous to some regions. The following examples show the new trend in this region concerning the intensification of renewable energy production, in extending and diversifying them.

Costa Rica is one of the front runners in Latin America when it comes to environmental protection. The biggest wind farm project of the entire region has just been completed and the country is now also leading in regards of renewable energy production. Juwi-group from Germany has developed this project, which is expected to be connected to the grid in the coming months. The new facility will have 55 E-44 wind turbines from the German manufacturer Enercon and deliver 50 MW. This wind farm will be feeding up to 240 GWh to the Costa Rican electricity network annually. This is equal to the energy consumption of 70,000 households in Europe. Juwi is going to run the wind farm together with Enercon.

In Chile, the British company Seawind wants to construct a 100 MW-wind farm, near the Chilean city Antofagasta. According to estimates, investments in the new wind farm, known as „Quillagua“ are going to sum up to \$230 million. Since 2005, a new law supports any development in the renewable energy market in Chile. From 2006 to 2010 15% of energy consumption is supposed to come from alternative energy sources.

In Uruguay the first wind power plant with 10 MW will be connecte to the grid in January this year. Despite this rather small sized installation of 5 turbines, the plant in Maldonado near the city San Carlo is supposed to feed 2500 MWh into the power grid every year. To date Uruguay has mostly sponsored waterpower plants. Experts, however, have recommended to extend the energy mix, as electricity production is becoming more and more dependent on volatile rainfalls.

Since its inauguration, the dena-solar roof initiative in El-Salvador and Chile promotes the use of solar energy on the sub-continent. In San Salvador a solar roof on a German school sponsored by the German Phönix Sonnen Strom AG company and SMA Technologie AG, has successfully demonstrated the use of alternative energy. The 20 kWp photovoltaic plant is one of the biggest solar plants in Central America. Its architecture is well adapted to the school building demonstrating innovative energy technology – and could also act as a role model for the electrification of rural areas.

According to a survey carried out by the Ibero-American Union and the German Foreign Chambers of Commerce from the region, the amount of German direct investment increased by \$13 billion since 2004, to a record sum of \$ 60 billion. This lifts Germany to the third place for foreign investment, after the U.S. and

Spain. Any positive development in the future in all of the countries in Latin America depends on a sustainable energy policy, designed to harness the natural potential for renewables in the region, and which uses this energy efficiently.

8. "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 provides information about German renewable energy industries, companies and products. Below an excerpt from the website with several representatives from the German renewable energy industry:

The [KOSTAL Group](#) is an independent family company with headquarters in Lüdenscheid. Around 11,000 staff are currently working in 15 countries for customers from the automotive and industrial sectors. KOSTAL Industrie Elektrik GmbH was founded in 1995 as an independent business division within the KOSTAL Group. The company's main area of expertise is PV systems.

[Spilling Energie Systeme GmbH](#) is a medium-sized enterprise which specializes in designing, manufacturing and commissioning power plants. The key components of the plants are the modular-designed Spilling steam engines and turbines. They are mainly used in combined heat and power plants in conjunction with biomass-fuelled steam boilers.

Since the [juwi Group](#) was founded in 1996, it has gone on to become one of the leading renewable energy suppliers with an annual turnover of 350 million Euro. Co-operation with regional energy suppliers as well as connections to politics, business and scientific research allows the juwi Group to carry out successful wind, bioenergy and solar energy projects in the megawatt power range.

[FRANK](#) geothermal systems ensure a permanent connection to the earth-bound energy source. Pre-assembled geothermal probes made of PE100, brine distributors and the associated accessories represent a system solution from a single source, right up to the heat pump connection.

9. 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. 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.

For more information please contact: renewables@dena.de

"renewables made in Germany" business trips in the beginning of 2009

Target Market	Location	Period	Seminar/ Presentation	Technology
Italy	Turin	2009-03-09 – 2009-03-13	2009-03-11	Solar energy
Hungary	Budapest	2009-03-15 –	2009-03-16	Solar energy

Target Market	Location	Period	Seminar/ Presentation	Technology
		2009-03-18		
France	Aix-en-Provence	2009-03-25 – 2009-03-27	2009-03-26	Photovoltaic energy
Norway	Oslo	2009-03-31 – 2009-04-02	2009-03-31	Wind energy
Ireland	Dublin	2009-04-06 – 2009-04-08	2009-04-06	Hydropower, geothermal energy
Bulgaria	Sofia	2009-04-27 – 2009-04-29	2009-04-27	Photovoltaic energy, geothermal energy
Croatia	Zagreb	2009-04-27 – 2009-04-29	2009-04-27	Bioenergy
Canada	Québec	2009-05.04. – 2009.05.09	2009-05.04	Bioenergy
South Korea	Seoul	2009-05.11. – 2009.05.15	2009-05-14	Bioenergy, geothermal energy
Turkey	Izmir	2009-05.25. – 2009.05.29	2009-05-27	Geothermal energy

10. 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
2009-03-12 - 2009-03-15	Sao Paulo	ecogerma - German-Brasilian Congress on innovation and sustainability
2009-03-31 - 2009-04-03	Prague	AMPER - International Fair on electrical engineering and electronics
2009-04-06 - 2009-04-08	Sofia	International Exhibition on Energy Efficiency and Renewable Energy Sources
2009-04-08 - 2009-04-10	Daegu (South Korea)	Green Energy Expo - New & Renewable Energy - Environment-Friendly Energy
2009-04-16 - 2009-04-18	Budapest	RENEXPO Central and South-East Europe - International Trade Fair and Congress for Renewable Energy and Energy Efficient Construction and Renovation
2009-05-19 - 2009-05-22	St. Petersburg	International Specialized Exhibition Energetika 2009

Date	Location	Fair
2009-05-20 - 2009-05-23	Bangkok	RENEWABLE ENERGY ASIA - International Renewable Energy Technology Exhibition and Conference

11. Upcoming Events: 1st German American Energy Conference 2009

In response to the anticipated promotion of renewable energy technologies in the United States, the German Energy-Agency (dena), together with the German American Chambers of Commerce (GACC), has organized the "1st German-American Energy Conference". This event is being conducted under the patronage of the Transatlantic Climate Bridge of the German Federal Foreign Office". The conference is going to take place from March 30 to April 2, 2009 in Berlin and will be inaugurated by the Federal Minister for Foreign Affairs and Vice Chancellor of Germany, Dr. Frank-Walter Steinmeier, as well as by the Federal Minister of Economics and Technology, Dr. Karl-Theodor Freiherr zu Guttenberg.

Jennifer M. Granholm, Governor of Michigan, and Sigmar Gabriel, Federal Environment Minister of Germany, have confirmed their participation as well.

Other organizations involved with the organization of the four-day event include numerous renewable energy associations including the Federation of German Industries (BDI), Germany Trade and Invest (gtai), the Federal Ministry of Economics and Technology with "renewables made in Germany" and the German Chambers of Industry and Commerce (DIHK). Topics such as current events, energy politics and policy, the future of renewable energy production, financing and investments will be addressed at the conference by well-known experts from the wind, solar and biomass industries. More than 500 renewable energy company leaders, political, economic and financial experts from Germany, Europe, and the USA are expected to attend the conference.

Further conference information and registration can be found at www.gae-conference.com

12. Useful Links

<http://www.worldenergy.com/> offers comprehensive information about technical and political developments in the international renewable energy sector

<http://www.environmental-expert.com/resultEachEvent.aspx?cid=25807&codi=7225&idproducttype=3&level=1§ion=7> provides information regarding carbon emissions trading events

http://www.geni.org/globalenergy/library/national_energy_grid/index.shtml displays and provides information regarding national and regional grid maps

<http://www.solarenergy.org/> is an international platform for training events in the sector of renewable energy

Thank you for subscribing to the "renewable made in Germany" Newsletter.

The next issue of the "renewables made in Germany" newsletter will appear in February 2009.

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.

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