




Study reveals solar and wind power plants to be a perfect combination

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Minimal shading losses and yields up to twice as high
Berlin/Germany, April 22, 2013. Solar and wind power plants complement each other better than previously thought. This is the conclusion of a study conducted by the Reiner Lemoine Institut and Solarpraxis AG. Combining wind turbines and photovoltaic systems results in up to twice the amount of electricity being generated across the same surface area, while shading losses caused by wind turbines amount to a mere 1 to 2 percent. As an additional benefit, the construction of hybrid power plants does not require grid expansion because these plants generate wind and solar power at different times, meaning that the level of energy fed into the grid is more steady than that of wind or photovoltaic power plants alone. "Until now, it was thought that the shadows cast on solar plants by wind turbines led to high yield losses. The study shows, however, that these shading losses are much lower than expected, provided the hybrid power plant is well designed, explains Alexander Woitas, Head of the Engineering Department at Solarpraxis AG. Various scenarios were simulated for the study and detailed shading analyses were carried out. "Initial requests to create yield reports as well as technical and economic system planning have given us cause to hope that the more efficient utilization of space and infrastructure created by hybrid power plants has excellent prospects for the future."
"We also calculated what effects combining photovoltaic and wind power plants will have on power grids on both a global and regional level, states Dr. Christian Breyer, Managing Director of the Reiner Lemoine Institut. "The fact that wind and photovoltaic power supply the grid with much more stable levels of energy when working together has a positive effect on grid stability. While wind turbines produce a lot more electricity during the colder parts of the year due to greater levels of wind over the winter months, solar power plants generate more solar power in the summer, compensating for the lower wind power production at this time of the year." Next year, an existing photovoltaic system near Templin in Brandenburg is set to be retrofitted with wind turbines as part of the German governments "Zwanzig20 research initiative. The data from the pilot plant will be analyzed by Solarpraxis, the Reiner Lemoine Institut and additional project partners.
Press photos and charts can be downloaded from: <http://www.sunbeam-berlin.de/public-relations/pressebilder/>
About Reiner Lemoine Institut gGmbH
The Reiner Lemoine Institut was established by the Reiner Lemoine Foundation in Berlin in April 2010. The non-profit institute conducts research into renewable energy and aims to make a scientific contribution to the long-term switch to a 100% renewable energy supply. Research activities focus particularly on optimized energy systems, mobility powered by renewable energy and technological development, especially in the area of small-scale wind power plants.
www.reiner-lemoine-institut.de
About Solarpraxis AG
Solarpraxis GbR was founded in Berlin in 1998 by the engineer Karl-Heinz Remmers and Kay Neubert. Solarpraxis AG became a publicly traded company in 2006. One of the leading consulting and service companies in the renewable energy industry, the company employs more than 90 members of staff in the areas of engineering, publishing and conferences, as well as public relations, new media and communications design.
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Die Berliner Solarpraxis AG ist das führende Beratungs- und Dienstleistungsunternehmen der Solarbranche. Seit 1998 generiert und vermarktet sie Wissen aus der Branche der Erneuerbaren Energien, vor allem der Solarenergie, für Unternehmen, Handwerk, Verbände, Politik und eine breite Öffentlichkeit. Die Unternehmenssparten Technische Dienstleistungen und Design & Kommunikation bieten in einer idealen Kombination individuellen Support für Erneuerbare-Energien-Unternehmen. Darüber hinaus publiziert sie in einem eigenen Verlag Fachliteratur in sieben Sprachen und organisiert Kongresse sowie Veranstaltungen. Mit ihrem Börsengang im August 2006 ist die Solarpraxis AG das einzige börsennotierte Dienstleistungsunternehmen im Markt der erneuerbaren Energien.