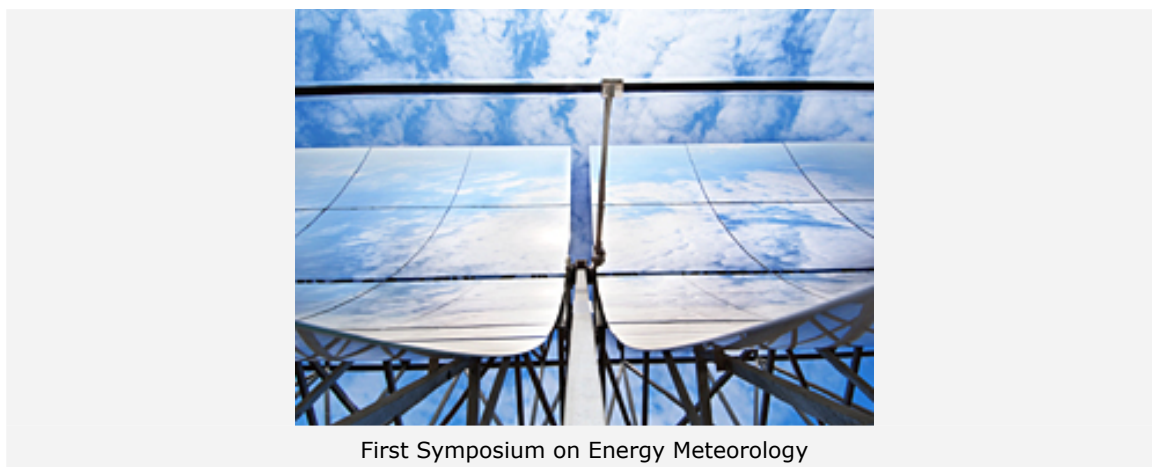


Press releases 2009

Good weather for the power plant? – First Symposium on Energy Meteorology

15 January 2009



First Symposium on Energy Meteorology

What is the power output of a wind farm or a solar power plant? The answer to this question depends on the wind conditions and the solar irradiance – and thus on the weather. During the first Symposium on Energy Meteorology (Fachtagung für Energiemetereologie), to be held at Grainau in Bavaria from 20-22 January 2009, scientists from the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) and the University of Oldenburg meet with experts from science and industry to discuss how the accuracy of weather forecasts for energy suppliers can be further improved in the future.

Using weather data to calculate power plant output

"As the share of wind farms and solar power plants in the total electricity supply increases, it becomes ever more important for power plant operators and energy suppliers to know the wind power or solar power they can expect at any given time", says meteorologist Marion Schroedter-Homscheidt of DLR's German Remote Sensing Data Center (Deutsches Fernerkundungsdatenzentrum; DFD). "In addition, energy meteorologists also use weather forecasting to make very concrete statements about the energy output that will be generated by a power station in a given location depending on the weather conditions."

The weather and the climate do not just determine wind and solar energy output, but also that of the renewable energy sources hydropower and bioenergy. In addition to this, day-to-day consumer energy demand also fluctuates depending on the temperature and weather, which makes it a topic for energy meteorology as well.



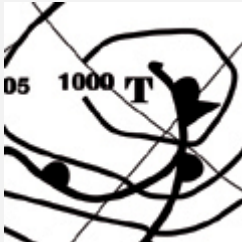
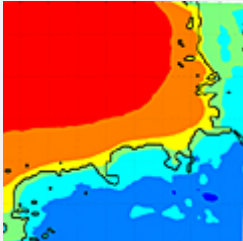

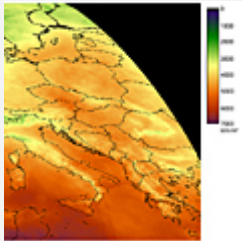

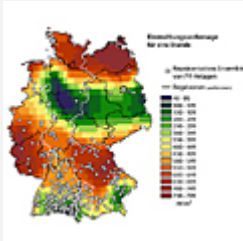
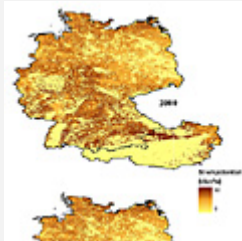
Forecasting the effects of weather and climate on the energy system as accurately as possible

Energy meteorology is a field of applied research and, as such, it is driven by the requirements of future energy supply. In some cases, this means it is concerned with information that, until now, was of no interest to meteorology in relation to weather forecasting. "For offshore wind farms, for instance, wind speeds at heights between 50 and 150 metres are important, while practically no data was collected in this range in the past", explains Dr Detlev Heinemann, Head of the Energy Meteorology Group at the University of Oldenburg. "The mechanical loads caused by wind turbulence are a crucial

factor affecting the durability of wind-energy units. We need to improve our understanding of this phenomenon." The objective is to describe and predict the effects of the weather and the climate on the overall energy supply system as accurately as possible.

Scientists of the German Remote Sensing Data Center, the DLR Institute for Atmospheric Physics (DLR-Institut für Physik der Atmosphäre) and the DLR Institute of Technical Thermodynamics (DLR-Institut für Technische Thermodynamik) have joined forces with the Carl von Ossietzky University of Oldenburg to form an interdisciplinary, virtual Institute for Energy Meteorology (vIEM). The main aim of the First Symposium on Energy Meteorology, to be held from 20-22 January, is to propose better and faster methods of supplying meteorological information that is relevant to the energy sector. New approaches to research at the intersection between energy research and meteorology will also be discussed.

Energy meteorology - a field of applied research

		
<p>Interactions between weather and energy supply</p>	<p>Good weather for the wind farm?</p>	<p>Energy meteorology: an interdisciplinary field of research</p>
		
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<p>Grid integration of renewable energies</p>	<p>Estimating power plant output</p>	<p>Bioenergy output depends on the weather</p>

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