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Wind power stabilises the electricity grid

Balancing energy from renewable energies

A balanced ratio between the production and consumption is constantly required in electricity grids. To compensate for the unavoidable fluctuations and to ensure the grid frequency of 50 Hertz, network operators require a reliable power reserve, known as control reserve. The BINE Projektinfo brochure “Stabilising the grid with wind power” (08/2014) presents a new concept as to how wind farms can also participate in future in bidding for control reserve. This will enable a pool of wind farms to provide part of the balancing power required in the German electricity grid.

Wind energy is primarily concerned with minute reserve power. With frequency fluctuations this must be fed into the grid within quarterly hour intervals. Until now the capacity has been tendered on working days for the next day. Scientists have developed new calculation methods to enable pools of wind farms to submit bids. As a second component in the concept, they have tested two methods for verifying the balancing energy actually supplied.

With the introduction of direct marketing, the reform of the 2012 Renewable Energy Sources Act created the general legal prerequisites for wind power’s participation in the bidding process. However, before the newly developed concept can be used in practice, changes to the existing regulations for the balancing power market are still required. The concept has been developed by staff of the Fraunhofer Institute for Wind Energy and Energy System Technology IWES in collaboration with industrial partners.

The BINE-Projektinfo brochure, which can be obtained free of charge from the BINE Information Service at FIZ Karlsruhe, is available online at www.bine.info or by calling +49 (0)228 92379-0. The brochure cover and one additional image are also available for download on this web portal in the press section.

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