



Simulating the wind resources of Hungary

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The utilisation of wind energy has been increasing around the world at an accelerating pace. However, the development of new wind projects continues to be hampered by the lack of reliable and accurate wind resource data in many parts of the world.

Hungary's traditional coal-dominated energy structure is changing slowly. Since Hungary joined the European Union in 2004, special efforts are declared by the Hungarian government to facilitate the use of renewable energy resources. Unfortunately, Hungary is not one among countries with windy climate. However, because of the shortage in traditional fuel resources, the rising energy costs, and the unbalanced export-import ratio of energy supply it is necessary to consider and review the use of potential wind energy resources in this region.

In response to the need for a new wind resource assessment of Hungary a research started on clarifying the possibilities of wind energy utilisation in the country. Complex wind energy research has been carried out, wind atlas of the region has been created, and wind energy map of Hungary has been compiled using a mesoscale wind model corresponding to the European recommendations. Furthermore, interannual variability of wind energy production has been estimated using ten-year-long wind database of 30 Hungarian climate stations.