

**IZW- PRESSEMITTEILUNG,**

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## **Germany's "energiewende" threatens migratory bats**



**Soprano pipistrelle (*Pipistrellus pygmaeus*). A small European bat, that probably undergoes long distance migrations.**

**Photo: CC Voigt/ IZW**

**Numerous bats are killed by German wind turbines. The number of such turbines, already very high, is planned to be increased further. More than two-thirds of bats being killed by wind turbines on German ground are migrants on their way between summer and winter habitats. Due to its geographical location in Europe, Germany has consequently a central responsibility for the conservation of migratory bats.**

Not all things that are called "green" serve the purpose of nature conservation. Currently, many wind turbines are erected in Germany in order to increase the production of renewable energy by 30 percent until 2020. These turbines kill bats and are in conflict with national and international nature conservation legislation and international treaties such as the UN Convention on the Conservation of Migratory Species of Wild Animals which are applicable to migratory bats, and which has also been signed by Germany. Every year thousands of bats die because of wind turbines in Germany. Mitigation measures which are available to reduce the number of killed animals per turbine are available but not consistently put into practice.

Conservation agreements formulated as UN Conventions are not legally binding for the signing parties and have therefore no influence on licensing procedures. "We assume that only a fractional part of all 24,000 wind turbines constructed until 2014 meet the necessary standards for the

conservation of protected species. Many, especially old, turbines run without any or only insufficiently implemented mitigation measures”, reports Christian Voigt, biologist and bat researcher at the German Leibniz Institute for Zoo and Wildlife Research (IZW). Together with other authors he has recently published an IZW study in the scientific journal “European Journal of Wildlife Research”, giving an overview on the issues generated by wind turbines for bat conservation.

Each wind turbine causes the death of about 10 to 12 bats per year if no mitigation measures are implemented. These numbers vary with the geographical location and type of turbine. The IZW scientists conclude that if all wind turbines in Germany were put into operation without any mitigation measures, nearly 250.000 bats per year would lose their lives. More than two-thirds of the killed bats – approximately 70 percent – originate from populations located in distant countries. These bats cross Germany when migrating between their summer habitats in northeastern Europe and winter habitats in southern and Western Europe. “Because of its geographical location, Germany has a key responsibility for the protection of migratory bat species”, emphasises Christian Voigt.

If more wind turbines are built in Germany and start to operate under insufficient mitigation measures, bat populations in countries where killed animals originated from will soon be affected. It is not only the number of wind turbines that counts but also their size: modern wind turbines have larger rotor blades and are already profitable at low wind velocities. Since an effective conservation measure is to turn off wind wheels at low wind speed, operators will encounter higher revenue losses in future when following mitigation measures. Furthermore, scientists expect bats to be exposed to stronger physical forces when being exposed to the sudden air pressure changes of large rotor blades. These strong forces may lead to barotrauma more frequently, i.e. large differences in air pressure near the rotor blades injure the inner organs of bats, including their ear, on which they depend to hear their own echolocation calls for orientation and hunting of insects. Voigt argues: “Bats with mild barotrauma may not die immediately but will be able to fly for several minutes or even hours, and eventually die because of starvation. Therefore, with an increasing precedence of barotraumatized animals at large wind turbines, I expect larger numbers of unrecorded fatalities”.

Currently, politicians and government authorities discuss the large-scale construction of wind turbines in forests. “Since the activity of bats is especially above forests and since killed animals are hardly found below wind turbines because of high vegetation cover, we are very worried about this development”, says IZW scientist Christian Voigt. Together with his co-authors he suggests to increase the obligations for operating wind turbines in the future: During the migratory period of bats turbines should be turned off consistently even at strong winds. When trading off economic

costs against the protection of species there should be a stronger emphasis on nature conservation in future – last but not least because of Germany’s special responsibility for the protection of migratory bats.

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