

New regulation of low frequency noise from wind turbines

23.12.2011



The Danish statutory order on wind turbine noise has been revised in order to implement rules for low frequency noise. The new regulation enters into force January 1st, 2012. This makes Denmark the first country with compulsory limits for low frequency noise from wind turbines.

The new regulation complements the present noise limits for wind turbines with a new limit for low frequency noise of 20 dB. The purpose of the new regulation is to ensure that neither the usual noise nor the low frequency noise will annoy the neighbours.

The limit value for the low frequency noise, 20 dB, corresponds to the most restrictive of the recommended noise limits for industrial noise. These limits are based on investigations of annoyance due to low frequency noise, showing that considerable annoyance can be expected when the indoor noise exceeds 20 dB in the evening or the night.

The subjective annoyance increases markedly when the noise level is increased beyond 20 dB. Recent research has supported the assessments behind the recommended noise limits for low frequency noise, and there is no doubt that loud low frequency noise is very annoying.

On the other hand no scientific evidence indicates that low frequency noise has other health effects than usual noise, and there is no evidence to support a lower limit value than 20 dB. The 20 dB limit ensures a good protection against annoyance from low frequency noise.

The regulation of noise from wind turbines on land is handled by the municipalities, both when a new wind turbine is notified and if subsequent noise problems occur. Now the municipalities have a tool to reassure the neighbours and other citizens that also the low frequency noise is regulated.