Wind turbine wind exposure area

Is wind turbine noise a health hazard?
The exposure to wind turbine noise in such levels,which meet the national regulations set for wind turbine noise,was not related to other health effectsthan noise annoyance,whereas road traffic noise exposure could be related to several health effects.

Should public health research focus only on wind turbine noise?
For public health research,focusing only on wind turbine noise would be a limitationsince road traffic is the dominant noise source around many wind turbine areas: wind turbines are usually built close to existing infrastructures.

What is the maximum noise exposure of a wind turbine?
Different maximum values of LAeq,WT and LAeq,07-22,RT can partly explain these results: the maximum values were 39.2 dBfor LAeq,WT and 63.5 dB for LAeq,07-22,RT. However,the noise exposures of our study represent the general noise exposure in wind turbine areas very well.

Do wind turbines cause road traffic noise?
Therefore,adverse health effects caused by road traffic noise can exist also in wind turbine areas. Only few studies have investigated the effects of wind turbine noise and road traffic noise in parallel although it is self-evident that people close to wind farms are also exposed to road traffic noise.

What factors influence residential noise exposure from wind turbines?
One of the most important factors influencing residential noise exposure from wind turbines is the distance of the wind turbine from the observer33. For example,at a distance of 120-500 m,the measured turbine noise levels decreased by 3-5 dB (LAeq),while at a distance of 1000 m the noise was reduced by 6-7 dB (LAeq) 34.

What are the strengths of a wind turbine epidemiological study?
This epidemiological study has many strengths: the inclusion of a modern WT area involving large 2-3 MW wind turbines, agreement of tightened wind turbine noise regulations among the whole population in the area, inclusion of a control area, masked questionnaire, and the inclusion of both wind turbine and road traffic sound levels outdoors.

wind turbine noise at the least exposed façade [22] and around all façades on average [38] are both highly related to built environ-ment morphology, which also depend on the setback ...

Wind turbines will generally operate between 7mph (11km/h) and 56mph (90km/h). The efficiency is usually maximised at about 18mph (29km/h) and they will reach their maximum output at 27mph (43km/h). Isn"t coal - a ...

The power generated by wind turbines relies heavily on the average local wind speed, and, for this reason, wind industries seek to install wind turbines at sites with optimal ...

Wind turbines are the fastest-growing renewable energy source, and wind energy is now cost-competitive with nonrenewable resources. (Courtesy: ©Can Stock Photo/ssuaphoto) The global capacity for generating ...

wind turbine, noise, urban morphology, quiet façade 2017 Renewable Energy Received: 1 March 2016 Received in revised form: 29 January 2017 Accepted: 14 February 2017 Nomenclature ...

Damage to wind turbine blades can be induced by lightning, fatigue loads, accumulation of icing on the blade surfaces and the exposure of blades to airborne particulates, causing so-called leading ...

However, the damage caused by lightning striking remains the biggest threat to wind turbines2. Statistics show that about 5.56 wind turbine blades are damaged by lightning striking for every ...

A method of calculating setbacks from wind turbines to mitigate public risk is shown. Wind turbines with inadequate setbacks can adversely impact public health both directly from physical risk and indirectly by irritation ...

Floating offshore wind energy O& M Workability Maintainability Human exposure to motion Whole-body vibration ABSTRACT Working on floating offshore wind turbines is a complex ...

Wind turbines generate low-frequency noise (LFN, 20-200 Hz), which poses health risks to nearby residents. This study aimed to assess heart rate variability (HRV) responses to LFN exposure...

By combining empirical estimates at the unit level with a detailed chemical transport model, our analysis estimates the air quality effects of wind power at high spatial and temporal resolution that are important for ...

Exposure to wind turbines does seem to increase the risk of annoyance and self-reported sleep disturbance in a dose-response relationship. There appears, though, to be a tolerable level of around ...

Selection of a wind turbine noise prediction model In order to estimate the exposure to wind turbine noise, it is necessary to choose a noise propagation model appropriate to wind turbine ...

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