

Vermont Legislative Council

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To: Representative Tony Klein
From: Catherine Craig, Law Clerk
Date: December 28, 2015
Subject: DR 16-293; health effects of sound from wind turbines

Health Effects of Sound from Wind Turbines: Survey of Studies

Attached are studies that examine the impacts of sound from wind turbines on human health. While many studies have been conducted on the topic, results are sometimes conflicting and currently are inconclusive. This memo provides the key points for each of the studies included in this file, along with their citation.

The largest study to date on the health impacts of sound from wind turbines took place in Canada, surveying residents in over 1,500 homes. The study found that sleep disturbance, illness nor stress could be casually linked to wind turbine sound levels and this file includes an in-depth summary of these findings. However, some of the studies in this file link annoyance, health-related quality of life, and sleep problems to sound from turbines.

Key Points of Studies:

“Wind Turbine Noise and Health Study: Summary of Results” *Health Canada: Environmental Health and Workplace*. October 30, 2014.

- Largest study to date on health effects of wind turbines
- No causal link found between proximity to wind turbines and negative health impacts
- Low levels of annoyance were shown to be correlated with financial gain from the wind tower

“Wind turbine noise, annoyance and self-reported health and well-being in different living environments.” Pedersen, Eja; Waye, Kertsin Persson. *Occupational Environ Med.*, (2007)

- Wind turbine noise is correlated with annoyance
- Hilly, rural areas have higher levels of annoyance than other areas

“Evaluating the impact of wind turbine noise on health-related quality of life.” Dirks, Kim, et al. *Noise Health.* (2011)

- Data from self-administered questionnaires
- Wind turbine noise linked to negative impacts on health-related quality of life

“Effects of industrial wind turbine noise on sleep and health.” Nissenbaum, et al. *Noise Health.* (2012)

- Study in two rural areas
- Demonstrates correlation between sleep problems and proximity to turbines

“Wind turbine syndrome; fact or fiction?” Farboud, A, et al. *Journal of Laryngology & Otology.* (2013)

- Review paper
- No conclusive evidence that wind turbine noise causes health effects

“Industrial wind turbines and adverse health effects.” Jeffrey, R., et al., *Canadian Journal of Rural Medicine.* (2014)

- Review article
- If turbines are placed too close to residents, turbines can have negative impacts on their physical, mental and social well-being