WORLD NEWS

Group pushes for revision of wind farm's plan to protect endangered bats #HI August 10, 2017

Residents in Northern Israel campaign against plan to set up wind turbines #ISR August 10, 2017

Letter: State shouldn't determine setbacks #OH August 10, 2017

Wilson warns of 'sinister' campaign to back wind turbines plan #NIR August 10, 2017

Ontario schools to enter mediation over turbine issue #OH August 10, 2017

The Scottish wind-power racket #SCT August 10, 2017

Preliminary results indicate turbidity of

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21 Peer Reviewed Articles On the Adverse Health Effects of Wind Turbine Noise

December 17, 2014 by stopthesethings 7 Comments

21 Peer Reviewed Articles on Health and Industrial Wind Turbines
nieuwerustnoisewatch.org
20 October 2014

Industrial Wind Turbines and Health: Wind Turbines Can Harm Humans if too Close to Residents.

Contrary to what the wind farm developers and the Environmental Impact Assessment noise and health 'specialists' of the Vredenburg WEF development (former IDP) would like us to believe, there are many up to date peer reviewed and published articles on adverse health effects related to industrial scale wind energy projects that are situated too close to our homes.

The following are just a few of the articles and are available at the Bulletin of Science Technology & Society. It is important that decision makers, environmental practitioners, noise and health specialists

TOP POSTS & PAGES

Wind Industry's Dirty Little Secret: Turbines to Generate 40 Million Tonnes of Toxic Waste

The True & Staggering Environmental Cost of Wind & Solar Power: Unsustainable Energy Defined

The Sum of All Costs: Counting the True Costs of Intermittent Wind & Solar Power

American Backlash Against Big Wind: States Cut Subsidies & Ban New Wind Power Projects

21 Peer Reviewed Articles On the Adverse Health Effects of Wind Turbine Noise

RECENT COMMENTS

pmm232 on Battered: America's Hoar…

Charles Wardrop on Battered: America's Hoar…

water is well above acceptable level #ON August 10, 2017

Amherst Island wind project plan OK'd #ON August 10, 2017

Third wind developer talks with Supervisors #IA August 10, 2017

Lots of questions at wind turbine regulation meeting #SK August 9, 2017









recognize the years of work and research that professionals in the health and engineering field have been doing related to industrial wind energy issues.

To continue to ignore these dedicated researchers and experts speaks to the ongoing negligence and lack of care and due diligence for wind farm neighbors in the world who are suffering.

1) The Problems With 'Noise Numbers' for Wind Farm Noise Assessment

Bob Thorne, Bulletin of Science Technology & Society 2011 31: 262, DOI: 10.1177/0270467611412557

Bio

Bob Thorne, MSc, PhD, is the principal consultant of Noise Measurement Services Pty Ltd, Brisbane, Australia. He holds a PhD from Massey University, New Zealand, in health science and is an environmental health research associate in the Institute of Food, Nutrition and Human Health at Massey University. His research work involves using advanced specialized technology for intrusive noise assessment, and a specific application is personalized sound reinforcement for hearing assistive devices.

Abstract

Human perception responds primarily to sound character rather than sound level. Wind farms are unique sound sources and exhibit special audible and inaudible characteristics that can be described as modulating sound or as a tonal complex. Wind farm compliance measures based on a specified noise number alone will fail to address problems with noise nuisance. The character of wind farm sound, noise emissions from wind farms, noise prediction at residences, and systemic failures in assessment processes are examined. Human perception of wind farm sound is compared with noise assessment measures and complaint histories.

The adverse effects on health of persons susceptible to noise from wind farms are examined and a hypothesis, the concept of heightened noise zones (pressure variations), as a marker for cause and effect is advanced. A sound level of LAeq 32 dB outside a residence and above an individual's threshold of hearing inside the home are identified as markers for serious adverse health effects affecting susceptible individuals.

The article is referenced to the author's research, measurements, and observations at different wind farms in New Zealand and Victoria, Australia.

Download: 01-swv_symposium_paper_thorne_problems_with_noise_numbers.pdf

2) Evaluating the impact of wind turbine noise on health related quality of life

by Daniel Shepherd, David McBride, David Welch, Kim N. Dirks, Erin M. Hill, Noise & Health, September-October 2011, 13:54,333-9, DOI:


david mortimer on Battered: America's Hoar…


Melissa on The Sum of All Costs: Counting…


Jaqueline Rovensky on Wind Industry's Dirty Li…


Respect Silence on Wind Industry's Dirty Li…


pattikellar on Wind Industry's Dirty Li…


Mahan on Wind Industry's Dirty Li…


pmm232 on Wind Industry's Dirty Li…


Climatism on Wind Industry's Dirty Li…

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STT TV

Unmitigated Wind Industry Torture: Wind Farm Neighbours Driven to Insanity by Screeching Wind Turbines

Pacific Hydro's Cape Bridgewater Wind Farm Public Relations Disaster: Video of a Corporate Calamity Unfolding

Pac Hydro promises but fails to fix its screeching fans at Cape Bridgewater

Health Impacts of Waterloo Wind Farm

Gary Weaven's Pacific Hydro: the Neighbour from Hell
















10.4103/1463-1741.85502, www.noiseandhealth.org

Abstract

We report a cross-sectional study comparing the health-related quality of life (HRQOL) of individuals residing in the proximity of a wind farm to those residing in a demographically matched area sufficiently displaced from wind turbines. The study employed a nonequivalent comparison group posttest-only design. Self-administered questionnaires, which included the brief version of the World Health Organization quality of life scale, were delivered to residents in two adjacent areas in semirural New Zealand.

Participants were also asked to identify annoying noises, indicate their degree of noise sensitivity, and rate amenity. Statistically significant differences were noted in some HRQOL domain scores, with residents living within 2 km of a turbine installation reporting lower overall quality of life, physical quality of life, and environmental quality of life. Those exposed to turbine noise also reported significantly lower sleep quality, and rated their environment as less restful. Our data suggest that wind farm noise can negatively impact facets of HRQOL.

Acknowledgements

We are grateful to our colleagues and others whose reviews substantially improved the manuscript. We are especially grateful for the thorough review undertaken by Professor Rex Billington, who as the WHO Director of Mental Health in the 1990s oversaw the development of the WHO's program into quality of life, health and the environment.

Download: 02-Evaluating-the-impact-of-wind-turbine-noise1.pdf

3) Mitigating the Acoustic Impacts of Modern Technologies: Acoustic, Health, and Psychosocial Factors: Informing Wind Farm Placement

Daniel Shepherd and Rex Billington, Bulletin of Science Technology & Society 2011 31: 389, DOI: 10.1177/0270467611417841

Bio

Daniel Shepherd has a PhD in psychoacoustics and holds a lectureship at the Faculty of Health, AUT University. As an environmental psychologist, he researches the psychological response to noise from both individual and social perspectives.

Bio

Dr. Rex Billington is a research health psychologist at AUT University after 18 years with the World Health Organization including directorships in Mental Health and the Global Program on AIDS.

Abstract

Wind turbine noise is annoying and has been linked to increased levels of psychological distress, stress, difficulty falling asleep and sleep interruption. For these reasons, there is a need for competently designed noise standards to safeguard community health and well- being.

The authors identify key considerations for the development of wind



















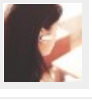
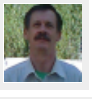


turbine noise standards, which emphasize a more social and humanistic approach to the assessment of new energy technologies in society.

Download: 03-Mitigating-the-Acoustic-Impacts-of-Modern-Technologies.pdf

4) Public Health Ethics, Legitimacy, and the Challenges of Industrial Wind Turbines: The Case of Ontario, Canada

Martin Shain, Bulletin of Science Technology & Society, 2011 31: 256, DOI: 10.1177/0270467611412552

Bio

Martin Shain S.J.D. is trained in law and social sciences. He is principal and founder of the Neighbour at Work Centre® and assistant professor at the Dalla Lana School of Public Health, Occupational and Environmental Health Division, University of Toronto.

Abstract

While industrial wind turbines (IWTs) clearly raise issues concerning threats to the health of a few in contrast to claimed health benefits to many, the trade-off has not been fully considered in a public health framework. This article reviews public health ethics justifications for the licensing and installation of IWTs. It concludes that the current methods used by government to evaluate licensing applications for IWTs do not meet most public health ethical criteria.

Furthermore, these methods are contrary to widely held fundamental principles of administrative law and governmental legitimacy. A set of decision-making principles are suggested to address this situation that are derived from existing and emerging legal principles in Canada and elsewhere. These include the Precautionary Principle, the Least Impactful Means (Proportionality) Test, and the Neighbor Principle.

Download: 04-shain_public_health_ethics_wind_turbines.pdf

5) Infrasound From Wind Turbines Could Affect Humans

Alec N. Salt and James A.Kaltenbach Infrasound , Bulletin of Science Technology & Society 2011 31: 296, DOI: 10.1177/0270467611412555

Bio

Alec N. Salt received his PhD from the University of Birmingham, UK, in 1977 and has been actively involved in research into the physiology of the ear for over 35 years.

Bio

James A. Kaltenbach received his PhD from the University of Pennsylvania in 1984. He specializes in the neurobiology of hearing disorders and is currently the Director of Otology Research at the Cleveland Clinic.

Abstract

Wind turbines generate low-frequency sounds that affect the ear. The ear is superficially similar to a microphone, converting mechanical sound waves into electrical signals, but does this by complex physiologic

More Photos









processes. Serious misconceptions about low-frequency sound and the ear have resulted from a failure to consider in detail how the ear works. Although the cells that provide hearing are insensitive to infrasound, other sensory cells in the ear are much more sensitive, which can be demonstrated by electrical recordings. Responses to infrasound reach the brain through pathways that do not involve conscious hearing but instead may produce sensations of fullness, pressure or tinnitus, or have no sensation. Activation of subconscious pathways by infrasound could disturb sleep. Based on our current knowledge of how the ear works, it is quite possible that low-frequency sounds at the levels generated by wind turbines could affect those living nearby.

Download: 05-Infrasound-from-Wind-Turbines-Could-Affect-Humans-SaltKaltenbach.pdf

6) Responses of the ear to low frequency sounds, infrasound and wind turbines.

Alec N. Salt and T.E. Hullar, Department of Otolaryngology, Washington University School of Medicine, St. Louis, MO, 63110, USA, Hearing Research 2010 Sep 1; 268(1-2):12-21. Epub 2010 Jun 16

Abstract

Infrasonic sounds are generated internally in the body (by respiration, heartbeat, coughing, etc) and by external sources, such as air conditioning systems, inside vehicles, some industrial processes and, now becoming increasingly prevalent, wind turbines. It is widely assumed that infrasound presented at an amplitude below what is audible has no influence on the ear.

In this review, we consider possible ways that low frequency sounds, at levels that may or may not be heard, could influence the function of the ear. The inner ear has elaborate mechanisms to attenuate low frequency sound components before they are transmitted to the brain.

The auditory portion of the ear, the cochlea, has two types of sensory cells, inner hair cells (IHC) and outer hair cells (OHC), of which the IHC are coupled to the afferent fibers that transmit “hearing” to the brain. The sensory stereocilia (“hairs”) on the IHC are “fluid coupled” to mechanical stimuli, so their responses depend on stimulus velocity and their sensitivity decreases as sound frequency is lowered. In contrast, the OHC are directly coupled to mechanical stimuli, so their input remains greater than for IHC at low frequencies.

At very low frequencies the OHC are stimulated by sounds at levels below those that are heard. Although the hair cells in other sensory structures such as the saccule may be tuned to infrasonic frequencies, auditory stimulus coupling to these structures is inefficient so that they are unlikely to be influenced by airborne infrasound. Structures that are involved in endolymph volume regulation are also known to be influenced by infrasound, but their sensitivity is also thought to be low. There are, however, abnormal states in which the ear becomes hypersensitive to infrasound. In most cases, the inner ear’s responses to infrasound can be considered normal, but they could be associated with

unfamiliar sensations or subtle changes in physiology. This raises the possibility that exposure to the infrasound component of wind turbine noise could influence the physiology of the ear.

Download: 06-Responsesof-the-ear-to-low-frequency-sounds-saltlichtenhan.pdf

7) Occupational Health and Industrial Wind Turbines: A Case Study

Robert W. Rand, Stephen E. Ambrose, and Carmen M. E. Krogh, Bulletin of Science Technology & Society 2011 31: 359DOI: 10.1177/0270467611417849

Bio
Robert W. Rand is a principal author with over 30 years of experience in industrial noise control, environmental sound, and general acoustics. A member of the Institute of Noise Control Engineering since 1993, he runs a small business providing consulting, investigator, and design services in acoustics.

Bio
Stephen E. Ambrose is a principal author with over 35 years of experience in industrial noise control. A member of the Institute of Noise Control Engineering since 1978, he runs a small business providing cost-effective environmental noise consulting services for industrial and commercial businesses, municipal and state governments, and private citizens.

Bio
Carmen M. E. Krogh, BScPharm, who provided health-related research and reference support, is a retired pharmacist with more than 40 years of experience in health. She has held senior executive positions at a major teaching hospital, a professional association, and Health Canada. She was a former Director of Publications and Editor in Chief of the Compendium of Pharmaceutical and Specialties (CPS), the book used in Canada by physicians, nurses, and other health professions for prescribing information on medication.

Abstract
Industrial wind turbines (IWTs) are being installed at a fast pace globally. Researchers, medical practitioners, and media have reported adverse health effects resulting from living in the environs of IWTs. While there have been some anecdotal reports from technicians and other workers who work in the environs of IWTs, little is known about the occupational health sector. The purpose of this case study is to raise awareness about the potential for adverse health effects occurring among workers. The authors propose that there is a need for research regarding occupational worker exposure relating to IWTs.

Download from Bulletin of Science, Technology & Society website

8) Properly Interpreting the Epidemiologic Evidence About the Health Effects of Industrial Wind Turbines on Nearby Residents

Carl V. Phillips, Bulletin of Science Technology & Society 2011 31: 303, DOI: 10.1177/0270467611412554

Bio

Dr. Carl V. Phillips is a consultant and author specializing in epidemiology, science- based policy making, and communicating scientific concepts to the public. He spent most of his career as a professor of public health and now works in litigation support, scientific advising, and grant-supported research. He blogs at ep-ology.blogspot.com, which provides links to his other writings.

Abstract

There is overwhelming evidence that wind turbines cause serious health problems in nearby residents, usually stress-disorder type diseases, at a nontrivial rate. The bulk of the evidence takes the form of thousands of adverse event reports. There is also a small amount of systematically gathered data. The adverse event reports provide compelling evidence of the seriousness of the problems and of causation in this case because of their volume, the ease of observing exposure and outcome incidence, and case-crossover data.

Proponents of turbines have sought to deny these problems by making a collection of contradictory claims including that the evidence does not "count," the outcomes are not "real" diseases, the outcomes are the victims' own fault, and that acoustical models cannot explain why there are health problems so the problems must not exist. These claims appeared to have swayed many nonexpert observers, though they are easily debunked. Moreover, though the failure of models to explain the observed problems does not deny the problems, it does mean that we do not know what, other than kilometers of distance, could sufficiently mitigate the effects. There has been no policy analysis that justifies imposing these effects on local residents. The attempts to deny the evidence cannot be seen as honest scientific disagreement and represent either gross incompetence or intentional bias.

Download: 08-Interp_Evidence_re_Wind_Turbines.pdf

9) Toward a Case Definition of Adverse Health Effects in the Environs of Industrial Wind Turbines: Facilitating a Clinical Diagnosis

Robert Y. McMurtry, Bulletin of Science Technology & Society 2011 31: 316, DOI: 10.1177/0270467611415075

Bio

Dr. Robert Y. McMurtry is the former Dean of Medicine for the University of Western Ontario. He was a member of the Health Council of Canada for 31⁄2 years and a member and special advisor to the Royal Commission under Roy Romanow on the future of health care in Canada. Dr. McMurtry was a visiting Cameron Chair to Health Canada for providing policy advice to the Minister and Deputy Minister of Health.

He was the Founding and Associate Deputy Minister of Population & Public Health, Canada. Dr. McMurtry also sat on the National Steering

Committee on Climate Change and Health Assessment. Presently Dr. McMurtry is Professor (Emeritus) of Surgery, University of Western Ontario.

Abstract
Internationally, there are reports of adverse health effects (AHE) in the environs of industrial wind turbines (IWT). There was multidisciplinary confirmation of the key characteristics of the AHE at the first international symposium on AHE/IWT. The symptoms being reported are consistent internationally and are characterized by crossover findings or a predictable appearance of signs and symptoms present with exposure to IWT sound energy and amelioration when the exposure ceases. There is also a revealed preference of victims to seek restoration away from their homes.

This article identifies the need to create a case definition to establish a clinical diagnosis. A case definition is proposed that identifies the sine qua non diagnostic criteria for a diagnosis of adverse health effects in the environs of industrial wind turbines. Possible, probable, and confirmed diagnoses are detailed. The goal is to foster the adoption of a common case definition that will facilitate future research efforts.

Download: 09-mcmurtry_toward_a_case_definition_wind_turbines.pdf

10) Low-frequency noise from large wind turbines

Henrik Møller and Christian Sejer Pedersen , Section of Acoustics, Aalborg University, Fredrik Bajers Vej 7-B5, DK-9220 Aalborg Ø, Denmark,
Acoustical Society of America,[DOI: 10.1121/1.3543957] J. Acoust. Soc. Am. 129 (6), June 2011 PACS number(s): 43.50.Rq, 43.28.Hr, 43.50.Cb, 43.50.Sr [ADP] Pages: 3727–3744

Abstract
As wind turbines get larger, worries have emerged that the turbine noise would move down in frequency and that the low-frequency noise would cause annoyance for the neighbors. The noise emission from 48 wind turbines with nominal electric power up to 3.6 MW is analyzed and discussed. The relative amount of low-frequency noise is higher for large turbines (2.3– 3.6 MW) than for small turbines (__ 2 MW), and the difference is statistically significant.

The difference can also be expressed as a downward shift of the spectrum of approximately one- third of an octave. A further shift of similar size is suggested for future turbines in the 10- MW range. Due to the air absorption, the higher low-frequency content becomes even more pronounced, when sound pressure levels in relevant neighbor distances are considered. Even when A-weighted levels are considered, a substantial part of the noise is at low frequencies, and for several of the investigated large turbines, the one-third-octave band with the highest level is at or below 250 Hz. It is thus beyond any doubt that the low-frequency part of the spectrum plays an important role in the noise at the neighbors.

Download: 10-Low-frequency noise from large wind turbines.pdf

11) WindVOiCe, a Self-Reporting Survey: Adverse Health Effects, Industrial Wind Turbines, and the Need for Vigilance Monitoring

Carmen M.E. Krogh, Lorrie Gillis, Nicholas Kouwen, and Jeffery Aramini, Bulletin of Science Technology & Society 2011 31: 334, DOI: 10.1177/0270467611412551

Bio
Carmen M. E. Krogh, BScPharm is a retired pharmacist with more than 40 years of experience in health. She has held senior executive positions at a major teaching hospital, a professional association and Health Canada. She was a former Director of Publications and Editor-in-chief of the Compendium of Pharmaceutical and Specialties (CPS), the book used in Canada by physicians, nurses and other health professions for prescribing information on medication.

Bio
Ms Lorrie Gillis is the process administrator for the WindVOiCe health survey. Ms Gillis volunteers her time and ensures the processes for administering the protocols are maintained.

Bio
Dr. Nicholas Kouwen is a Distinguished Professor Emeritus in the Department of Civil and Environmental Engineering of the University of Waterloo, Waterloo, Ontario, Canada. He is a registered Professional Engineer (Ontario) and a Fellow of the American Society of Civil Engineers. His field of expertise is in hydraulic and hydrological modelling and is currently involved in studies dealing with the impact of climate change on water availability.

Bio
Dr. Jeff Aramini is a public health epidemiologist with expertise in the investigation of health concerns using epidemiological principles. DVM and M.Sc. from the University of Saskatchewan; Ph.D. from the University of Guelph. Former senior epidemiologist with Health Canada/Public Health Agency of Canada. Currently, President and CEO of an organization that addresses public health, patient care, public safety and information management for clients in government, industry and academia.

Abstract
Industrial wind turbines have been operating in many parts of the globe. Anecdotal reports of perceived adverse health effects relating to industrial wind turbines have been published in the media and on the Internet. Based on these reports, indications were that some residents perceived they were experiencing adverse health effects. The purpose of the WindVOiCe health survey was to provide vigilance monitoring for those wishing to report their perceived adverse health effects. This article discusses the results of a self reporting health survey regarding perceived adverse health effects associated with industrial wind turbines.

Download: 11-krogh_etal_windvoice_wind_turbines.pdf

12) Industrial Wind Turbine Development and Loss of Social Justice?

Carmen M.E. Krogh , Bulletin of Science Technology & Society 2011 31: 321, DOI: 10.1177/0270467611412550

Bio

Carmen M. E. Krogh, BScPharm is a retired pharmacist with more than 40 years of experience in health. She has held senior executive positions at a major teaching hospital, a professional association and Health Canada. She was a former Director of Publications and Editor-in-chief of the Compendium of Pharmaceutical and Specialties (CPS), the book used in Canada by physicians, nurses and other health professions for prescribing information on medication.

Abstract

This article explores the loss of social justice reported by individuals living in the environs of industrial wind turbines (IWTs). References indicate that some individuals residing in proximity to IWT facilities experience adverse health effects. These adverse health effects are severe enough that some families have abandoned their homes.

Individuals report they welcomed IWTs into their community and the negative consequences were unexpected. Expressions of grief are exacerbated by the emotional and physical toll of individuals' symptoms, loss of enjoyment of homes and property, disturbed living conditions, financial loss, and the lack of society's recognition of their situation.

The author has investigated the reported loss of social justice through a review of literature, personal interviews with, and communications from, those reporting adverse health effects. The author's intention is to create awareness that loss of social justice is being associated with IWT development. This loss of justice arises from a number of factors, including the lack of fair process, the loss of rights, and associated disempowerment.

These societal themes require further investigation. Research by health professionals and social scientists is urgently needed to address the health and social impacts of IWTs operating near family homes.

Download: 12-krogh_wind_turbines_and_loss_of_social_justice.pdf

13) Wind Turbines Make Waves: Why Some Residents Near Wind Turbines Become Ill

Magda Havas and David Colling, Bulletin of Science Technology & Society 2011 31: 414. DOI: 0.1177/0270467611417852

Bio

Magda Havas, PhD, is an associate professor at Trent University where she teaches and conducts research on the biological and health effects of electromagnetic and chemical pollutants. She received her BSc and PhD at the University of Toronto and did postdoctoral research at Cornell University on acid rain and aluminum toxicity.

Bio

David Colling has applied his electrical engineering studies at Ryerson Polytechnical Institute and his specialized training in electrical pollution to conduct electrical pollution testing for Bio-Ag on farms, homes, and office buildings. Some of the homes tested are located in the environs of industrial wind turbines.

Abstract

People who live near wind turbines complain of symptoms that include some combination of the following: difficulty sleeping, fatigue, depression, irritability, aggressiveness, cognitive dysfunction, chest pain/pressure, headaches, joint pain, skin irritations, nausea, dizziness, tinnitus, and stress. These symptoms have been attributed to the pressure (sound) waves that wind turbines generate in the form of noise and infrasound. However, wind turbines also generate electromagnetic waves in the form of poor power quality (dirty electricity) and ground current, and these can adversely affect those who are electrically hypersensitive. Indeed, the symptoms mentioned above are consistent with electrohypersensitivity. Sensitivity to both sound and electromagnetic waves differs among individuals and may explain why not everyone in the same home experiences similar effects. Ways to mitigate the adverse health effects of wind turbines are presented.

Download: 13-Havas-Colling-wind-article.pdf

14) Literature Reviews on Wind Turbines and Health : Are They Enough?

Brett Horner, Roy D. Jeffery and Carmen M. E. Krogh, Bulletin of Science Technology & Society 2011 31: 399. DOI: 10.1177/0270467611421849

Bio

Brett Horner, BA, is a certified management accountant and has held senior manager positions in international business consulting groups. He has provided information technology consulting and accounting/auditing services to a wide variety of clientele. He has dedicated over 2 years reviewing and analyzing references on the subject of industrial wind turbines and reported health effects.

Bio

Roy D. Jeffery, MD, is a rural family physician and a clinical preceptor for the University of Ottawa and the Northern Ontario Medical Schools. He practices rural medicine with special interests regarding geriatric home care and rural health. He has the distinction of being awarded the Ontario Family Physician of the Year–Northern Division in 2008.

Bio

Carmen M. E. Krogh, BSc Pharm, is a retired pharmacist with more than 40 years of experience in health. She has held senior executive positions at a major teaching hospital, a professional association, and Health Canada. She was a former director of Publications and editor-in-chief of the Compendium of Pharmaceutical and Specialties, the book used in Canada by physicians, nurses, and other health professions for prescribing information on medication.

Abstract
Industrial wind turbines (IWTs) are a new source of community noise to which relatively few people have yet been exposed. IWTs are being erected at a rapid pace in proximity to human habitation. Some people report experiencing adverse health effects as a result of living in the environs of IWTs. In order to address public concerns and assess the plausibility of reported adverse health effects, a number of literature reviews have been commissioned by various organizations. This article explores some of the recent literature reviews on IWTs and adverse health effects. It considers the completeness, accuracy, and objectivity of their contents and conclusions. While some of the literature reviews provide a balanced assessment and draw reasonable scientific conclusions, others should not be relied on to make informed decisions. The article concludes that human health research is required to develop authoritative guidelines for the siting of IWTs in order to protect the health and welfare of exposed individuals.

Download: 14-Literature-Reviews-on-Wind-Turbines-and-Health.pdf

15) Editorial Wind turbine noise

Christopher D Hanning and Alun Evans British Medical Journal, BM J2 012;344d oi: 10.1136/ bmj.e1527 (8 March 2012)

Bio
Christopher Hanning, BSc, MB, BS, MRCS, LRCP, FRCA, MD is an honorary consultant in sleep medicine Sleep Disorders Service, University Hospitals of Leicester, Leicester General Hospital, Leicester, UK Dr Chris Hanning is Honorary Consultant in Sleep Disorders Medicine to the University Hospitals of Leicester NHS Trust, UK. He retired in September 2007 as Consultant in Sleep Disorders Medicine.

After initial training in anaesthesia, he developed an interest in Sleep Medicine. He founded and ran the Leicester Sleep Disorders Service, one of the longest standing and largest services in the UK. He was a founder member and President of the British Sleep Society

His expertise in this field has been accepted by the civil, criminal and family courts. He chairs the Advisory panel of the SOMNIA study, a major project investigating sleep quality in the elderly, and sits on Advisory panels for several companies with interests in sleep medicine.

Bio
Alun Evans, is an epidemiologist, Centre for Public Health, Queen's University of Belfast, Institute of Clinical Science B, Belfast, UK

Excerpt from BMJ web site:
Seems to affect health adversely and an independent review of evidence is needed.

The evidence for adequate sleep as a prerequisite for human health, particularly child health, is overwhelming. Governments have recently paid much attention to the effects of environmental noise on sleep duration and quality, and to how to reduce such noise. However,

governments have also imposed noise from industrial wind turbines on large swathes of peaceful countryside.

The impact of road, rail, and aircraft noise on sleep and daytime functioning (sleepiness and cognitive function) is well established. Shortly after wind turbines began to be erected close to housing, complaints emerged of adverse effects on health. Sleep disturbance was the main complaint. Such reports have been dismissed as being subjective and anecdotal, but experts contend that the quantity, consistency, and ubiquity of the complaints constitute epidemiological evidence of a strong link between wind turbine noise, ill health, and disruption of sleep.

Download: 15-B-M J-Noise.pdf

16) Wind Turbine Noise

John P. Harrison, Bulletin of Science Technology & Society 2011 31: 256, DOI: 10.1177/0270467611412549

Bio
Dr. John P. Harrison has expertise in the properties of matter at low temperatures with emphasis on high frequency sound waves (phonons). For the past 5 years he has studied wind turbine noise and its regulation. He has presented invited talks on the subject at 3 conferences, including the 2008 World Wind Energy Conference.

Abstract
Following an introduction to noise and noise regulation of wind turbines, the problem of adverse health effects of turbine noise is discussed. This is attributed to the characteristics of turbine noise and deficiencies in the regulation of this noise. Both onshore and offshore wind farms are discussed.

Download: 16-harrison_wind_turbine_noise.pdf

17) The Noise from Wind Turbines: Potential Adverse Impacts on Children's Well-Being

Arline L. Bronzaft Bulletin of Science Technology & Society 2011 31: 256, DOI: 10.1177/0270467611412548

Bio
Dr. Arline L. Bronzaft is a Professor Emerita of Lehman College, City University of New York. She serves on the Mayor's Grow NYC, having been named to this organization by three previous Mayors as well. Dr. Bronzaft is the author of landmark research on the effects of elevated train noise on children's classroom learning; has examined the impacts of airport-related noise on quality of life; and has published articles on noise in environmental books, academic journals and the more popular press. In 2007, she assisted in the updating of the New York City Noise Code.

Abstract
Research linking loud sounds to hearing loss in youngsters is now

widespread, resulting in the issuance of warnings to protect children's hearing. However, studies attesting to the adverse effects of intrusive sounds and noise on children's overall mental and physical health and well-being have not received similar attention. This, despite the fact that many studies have demonstrated that intrusive noises such as those from passing road traffic, nearby rail systems, and overhead aircraft can adversely affect children's cardiovascular system, memory, language development, and learning acquisition.

While some schools in the United States have received funds to abate intrusive aircraft noise, for example, many schools still expose children to noises from passing traffic and overhead aircraft. Discussion focuses on the harmful effects of noise on children, what has to be done to remedy the situation, and the need for action to lessen the impacts of noise from all sources. Furthermore, based on our knowledge of the harmful effects of noise on children's health and the growing body of evidence to suggest the potential harmful effects of industrial wind turbine noise, it is strongly urged that further studies be conducted on the impacts of industrial wind turbines on their health, as well as the health of their parents, before forging ahead in siting industrial wind turbines.

1 Excerpted from Case Nos.: 10-121/10-122 Erickson v. Director, Ministry of the Environment Environmental Review Tribunal, Decision, p 207 "This case has successfully shown that the debate should not be simplified to one about whether wind turbines can cause harm to humans. The evidence presented to the Tribunal demonstrates that they can, if facilities are placed too close to residents. The debate has now evolved to one of degree." 2 Summary focuses on the evidence regarding risk to health: summaries from published literature 2010 to March 2012

Download: 17-bronzaft_children_and_noise_wind_turbines.pdf

18) WIND TURBINE NOISE, SLEEP AND HEALTH

Response to:
The Northumberland County Council Core Issues and Options Report Consultations Dr Christopher Hanning BSc, MB, BS, MRCS, LRCP, FRCA, MD On behalf of the Northumberland & Newcastle Society, July 2012

Bio
My name is Dr Christopher Hanning, Honorary Consultant in Sleep Disorders Medicine to the University Hospitals of Leicester NHS Trust, based at Leicester General Hospital, having retired in September 2007 as Consultant in Sleep Disorders Medicine. In 1969, I obtained a First class Honours BSc in Physiology and, in 1972, qualified in medicine, MB, BS, MRCS, LRCP from St Bartholomew's Hospital Medical School. After initial training in anaesthesia, I became a Fellow of the Royal College of Anaesthetists by examination in 1976 and was awarded a doctorate from the University of Leicester in 1996. I was appointed Senior Lecturer in Anaesthesia and Honorary Consultant Anaesthetist to Leicester General Hospital in 1981. In 1996, I was appointed Consultant Anaesthetist with a special interest in Sleep Medicine to Leicester General Hospital and Honorary Senior Lecturer to the University of Leicester.

Abstract

There can be no reasonable doubt that industrial wind turbines whether singly or in groups ("wind farms") generate sufficient noise to disturb the sleep and impair the health of those living nearby and this is now widely accepted. A recently published peer reviewed editorial in the British Medical Journal states: "A large body of evidence now exists to suggest that wind turbines disturb sleep and impair health at distances and external noise levels that are permitted in most jurisdictions, including the United Kingdom." "When seeking to generate renewable energy through wind, governments must ensure that the public will not suffer harm from additional ambient noise". An Ontario Environmental Review Tribunal heard evidence from over 20 expert witnesses (including the author) in 2011 and concluded "… the debate should not be simplified to one about whether wind turbines can cause harm to humans. The evidence presented to the Tribunal demonstrates that they can, if facilities are placed too close to residents. The debate has now evolved to one of degree." In reviewing potential health impacts of sustainable energy sources, three leading members of the National Institute of Environmental Health Sciences, part of the US National Institutes of Health, state: "Wind energy will undoubtedly create noise, which increases stress, which in turn increases the risk of cardiovascular disease and cancer." Section 5.1.1 of the draft New Zealand standard on wind farm noise, 2009, states: "Limits for wind farm noise are required to provide protection against sleep disturbance and maintain reasonable residential amenity." ETSU-R-97 is predicated in part on earlier WHO guidelines and was intended to avoid sleep disturbance. As will be demonstrated, the ETSU-R-97 night time limits were set too high to prevent sleep disturbance. Reports from many different locations and different countries have a common set of symptoms and have been documented by Frey and Hadden (2012). New cases are documented regularly on the Internet. The symptoms include sleep disturbance, fatigue, headaches, dizziness, nausea, changes in mood and inability to concentrate and have been named "wind turbine syndrome" by Dr Nina Pierpont (2009). The experiences of the Davis (2008) family from Lincolnshire whose homes were around 900m from wind turbines make salutary reading. The noise, sleep disturbance and ill health eventually drove them from their homes. The Davises subsequently took the developers and land owners to the High Court. An out of court settlement was reached before judgement had been made. Similar stories have been reported from around the world, usually in anecdotal form but in considerable numbers.

Download: 18-wind-turbine-noise-sleep-and-health-report-jul-2012.pdf

19) Effects of industrial wind turbine noise on sleep and health

Michael A. Nissenbaum, Jeffery J. Aramini1, Christopher D. Hanning2

Bio

Northern Maine Medical Center, Fort Kent, Maine, USA, 1Intelligent Health Solutions, Guelph, Ontario, Canada, 2University Hospitals of Leicester NHS Trust, Leicester, UK

Abstract
Industrial wind turbines (IWTs) are a new source of noise in previously quiet rural environments. Environmental noise is a public health concern, of which sleep disruption is a major factor. To compare sleep and general health outcomes between participants living close to IWTs and those living further away from them, participants living between 375 and 1400 m and 3.3 and 6.6 km from IWTs were enrolled in a stratified cross-sectional study involving two rural sites. Validated questionnaires were used to collect information on sleep quality, daytime sleepiness, and general health, together with psychiatric disorders, attitude, and demographics. Descriptive and multivariate analyses were performed to investigate the effect of the main exposure variable of interest on various health outcome measures. Participants living within 1.4 km of an IWT had worse sleep, were sleepier during the day, and had worse SF36 Mental Component Scores compared to those living further than 1.4 km away. Significant dose-response relationships between PSQI, ESS, SF36 Mental Component Score, and log-distance to the nearest IWT were identified after controlling for gender, age, and household clustering. The adverse event reports of sleep disturbance and ill health by those living close to IWTs are supported.

Download: 19-effects_of_industrial_wind_turbine_noise_on_sleep_and_health_nissenbaur

20) Adverse health effects of industrial wind turbines

Published:
Canadian Family Physician (CFP), a peer-reviewed medical journal, is the official publication of the College of Family Physicians of Canada PMC US National Library of Medicine – National Institutes of Health.

Bio
Roy D. Jeffery, MD FCFPFamily physician in the Northeastern Manitoulin Family Health Team in Little Current, Ont.Carmen KroghRetired pharmacist and a former Editor-in-Chief of the Compendium of Pharmaceutical Specialties.Brett Horner, CMACertified Management Accountant.

Abstract
Canadian family physicians can expect to see increasing numbers of rural patients reporting adverse effects from exposure to industrial wind turbines (IWTs). People who live or work in close proximity to IWTs have experienced symptoms that include decreased quality of life, annoyance, stress, sleep disturbance, headache, anxiety, depression, and cognitive dysfunction. Some have also felt anger, grief, or a sense of injustice. Suggested causes of symptoms include a combination of wind turbine noise, infrasound, dirty electricity, ground current, and shadow flicker.1 Family physicians should be aware that patients reporting adverse effects from IWTs might experience symptoms that are intense and pervasive and might feel further victimized by a lack of caregiver understanding.

Download: 20-Adverse-health-effects-of-industrial-wind-turbinesl.pdf

21) Industrial wind turbines and adverse health effects

by Roy Jeffrey MD, Carmen Krogh and Brett Horner has been published in the Canadian Journal of Rural Medicine Can J Rural Med 2014;19(1). This peer reviewed journal is a publication of the Canadian Medical Association.

The conclusion states:

"Based on current knowledge, we expect that, at typical setback distances and sound pressure levels of IWTs in Ontario, a nontrivial percentage of exposed people will be ad – versely affected. "Trade-offs" of health for perceived benefit in alternate forms of energy can be prevented if setback distances and noise limits are developed using established noise management techniques. In addition to providing care for affected patients, rural physicians have a responsibility to advance understanding and to help inform IWT regulations that will protect the physical, mental and social well-being of patients."

Download: 21-industrial_wind_turbine_and_adverse_health_effects.pdf

How many more to need to hit the shelves before this insanity ends?

Related

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Crooks & Corruption Rule: What is it with the Wind Industry? »

About stopthesethings
We are a group of citizens concerned about the rapid spread of industrial wind power generation installations across Australia.

Comments

Sommer says:
November 9, 2015 at 6:19 am

In Canada, specifically in rural Ontario, one would hope the cost of compensation for all who have been made ill, have been forced to leave/abandon their homes, or who have lost property value, is planned for in the budget. No doubt the new Federal government is planning to help out financially when residents start filing lawsuits.

Reply

pattikellar says:
November 7, 2015 at 11:22 pm

Reblogged this on pattikellar and commented:
Just in case you are looking for more evidence on health related impacts of turbines, here it is….. You know that government and industry isn't going to provide you with anything.

Reply

Old Ranga says:
December 18, 2014 at 1:41 pm

Nice one, STT. Thanks.

Reply

Jackie Rovenksy says:
December 18, 2014 at 11:03 am

For ANY Medical Association or any members of any such association to continue to ignore the evidence and problems sends the message that they are no longer undertaking a Duty of Care to patients in general and those suffering in particular.
No matter how many openly report or report in confidence adverse Health Effects commencing after the start-up of Industrial Wind Turbines in their districts, all such reports should be taken seriously and patients treated with respect.
There is no question noise is a health hazard, for such bodies to continue to ignore this places them in a position of denial, and a position indicative of misplaced bias. The only bias such organisations and their members should have is a bias to the patient and their needs and no other.

Reply

Noel Dean. says:
December 18, 2014 at 10:51 am

The 21 Peer Reviewed Articles on Health and Industrial Wind Turbines present the Facts "the experiences of people around the World suffering harm". For every action, there is an equal but opposite reaction. The compression and decompression of air coming from the operation of wind turbines has made my family very ill, so much so it was necessary to fully relocate. This is supported by the information in the 21 peer reviewed articles. The truth is there to be read. It is the responsibility of lawyers acting for their clients, be it Councils, Hosts or developers, to read this information and understand the true situation.
Noel Dean.

Reply

Uncle Fester says:
December 18, 2014 at 9:09 am

Here we go again…… Just like the Tobacco and Asbestos industries of the last century, mounting evidence of harm to humans will be systematically discredited by the wind industry as they strive for profit. The outcome, too, I fear will be the same…… A huge number of innocent victims will learn all too late, that their fears were right from the beginning. However, unlike Tobacco and Asbestos, this time governments around the world have been complicit in approving and forcing these health disasters upon their constituents against their wishes. When the true effects of these industrial complexes (please don't call them a "farm") are undeniable, then the governments of the day will be as legally liable as the turbine operators and developers for what they have done. Unfortunately for them, they are not $2 shelf companies and cannot just dissolve and disappear into the sunset at the first sign of the cavalry. Then watch the fireworks start as affected landowners commence full compensation actions for damages to health, property values and for a breach of their duty of care against those who supposedly represent their best interests. Hopefully it won't stop there, and the AMA will get their dose of medicine as well.

Reply

Fletcher says:
December 17, 2014 at 7:39 pm

Clearly in the face of all the worldwide evidence against wind farms, the only logical conclusion that can be drawn in a supposedly intelligent society as ours, is corruption has touched our politics, through lobby groups and wind development companies. Unfortunately the AMA (the Australian Medical Association) has also joined this list.

Reply

Leave a Reply

Enter your comment here...

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