Presentation to Whitman County

WIND TURBINES AND HUMAN HEALTH IMPACTS

JASONA RONDEAU, B.ED.

JR Social Advocacy
Blackie, Alberta, Canada

JASONA RONDEAU
SOCIAL ADVOCACY CONSULTANT

Outline

Introduction & Qualifications

- Ms. Rondeau's experience & qualifications
- Dr. Bellut-Staeck's experience & qualifications

Reply to OEHM September 10th presentation

- qualifications review
- quality of evidence review
- weight of cumulative evidence
- health concerns raised
- Health Canada WTN 2015 study

New Paradigm for Consideration

- Infrasound Impacts at the Cellular Level flyer
- AUC Rule 012
- Health Canada vs. Nobel Prize research
- Alberta Infrasound Project

Recommendations & Conclusion

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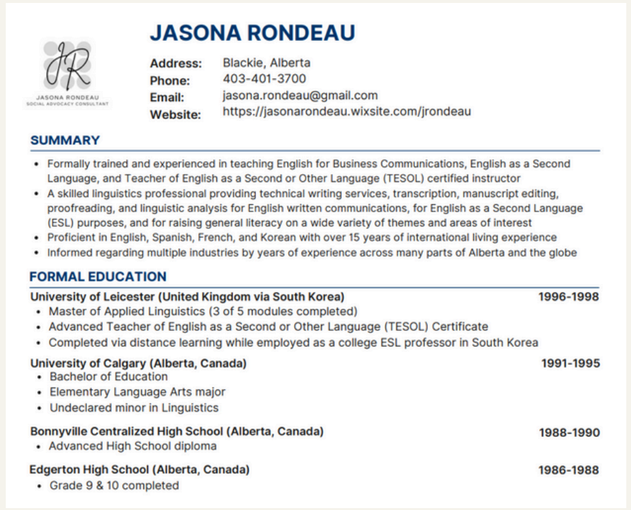
Presenter Qualifications

1. CV submitted on AUC Proceeding #29146 - Cost Claim for Dolcy Solar + Battery Project Pg 73-76

2. CV for Dr. Ursula Bellut-Staeck from AUC Proceeding 29377 Oyen Wind Project

3. Additional Qualifications on Proceeding #29377 Oyen Wind Project



JASONA RONDEAU

Address: Blackie, Alberta
Phone: 403-401-3700
Email: jasona.rondeau@gmail.com
Website: https://jasonarondeau.wixsite.com/jrondeau

SUMMARY

- Formally trained and experienced in teaching English for Business Communications, English as a Second Language, and Teacher of English as a Second or Other Language (TESOL) certified instructor
- A skilled linguistics professional providing technical writing services, transcription, manuscript editing, proofreading, and linguistic analysis for English written communications, for English as a Second Language (ESL) purposes, and for raising general literacy on a wide variety of themes and areas of interest
- Proficient in English, Spanish, French, and Korean with over 15 years of international living experience
- Informed regarding multiple industries by years of experience across many parts of Alberta and the globe

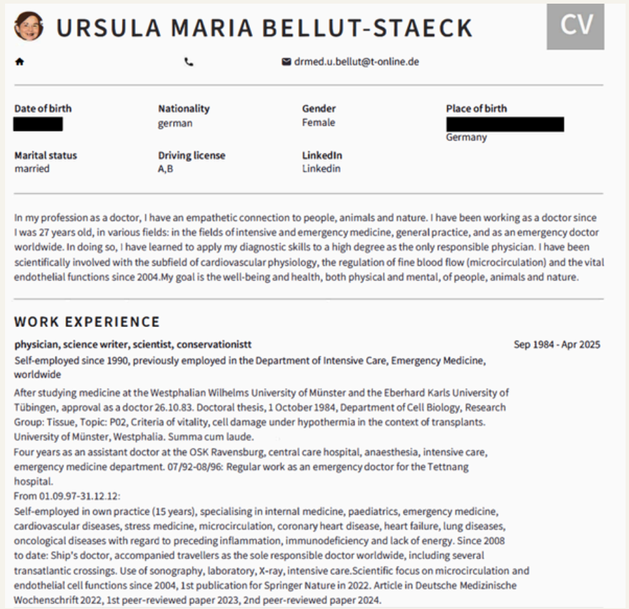
FORMAL EDUCATION

University of Leicester (United Kingdom via South Korea) 1996-1998
- Master of Applied Linguistics (3 of 5 modules completed)
- Advanced Teacher of English as a Second or Other Language (TESOL) Certificate
- Completed via distance learning while employed as a college ESL professor in South Korea

University of Calgary (Alberta, Canada) 1991-1995
- Bachelor of Education
- Elementary Language Arts major
- Undeclared minor in Linguistics

Bonnyville Centralized High School (Alberta, Canada) 1988-1990
- Advanced High School diploma

Edgerton High School (Alberta, Canada) 1986-1988
- Grade 9 & 10 completed



URSULA MARIA BELLUT-STAECK

CV

drmed.u.bellut@t-online.de

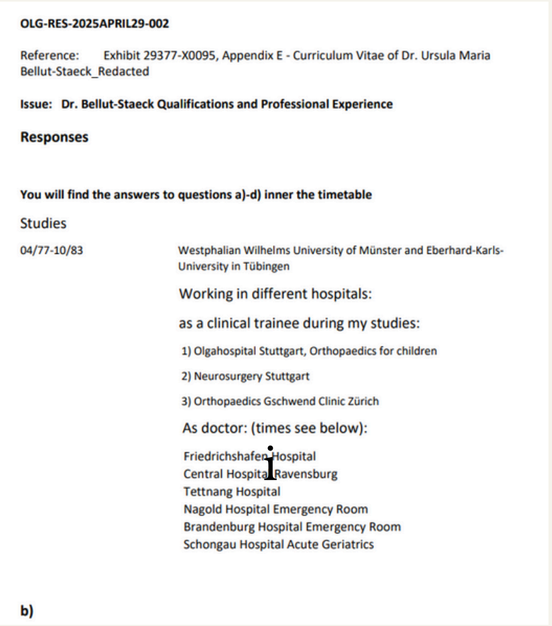
Date of birth	Nationality	Gender	Place of birth
[redacted]	german	Female	[redacted] Germany
Marital status	**Driving license**	**LinkedIn**	
married	A,B	Linkedin	

In my profession as a doctor, I have an empathetic connection to people, animals and nature. I have been working as a doctor since I was 27 years old, in various fields: in the fields of intensive and emergency medicine, general practice, and as an emergency doctor worldwide. In doing so, I have learned to apply my diagnostic skills to a high degree as the only responsible physician. I have been scientifically involved with the subfield of cardiovascular physiology, the regulation of fine blood flow (microcirculation) and the vital endothelial functions since 2004.My goal is the well-being and health, both physical and mental, of people, animals and nature.

WORK EXPERIENCE

physician, science writer, scientist, conservationistt Sep 1984 - Apr 2025
Self-employed since 1990, previously employed in the Department of Intensive Care, Emergency Medicine, worldwide

After studying medicine at the Westphalian Wilhelms University of Münster and the Eberhard Karls University of Tübingen, approval as a doctor 26.10.83. Doctoral thesis, 1 October 1984, Department of Cell Biology, Research Group: Tissue, Topic: P02, Criteria of vitality, cell damage under hypothermia in the context of transplants. University of Münster, Westphalia. Summa cum laude.
Four years as an assistant doctor at the OSK Ravensburg, central care hospital, anaesthesia, intensive care, emergency medicine department. 07/92-08/96: Regular work as an emergency doctor for the Tettnang hospital.
From 01.09.97-31.12.12:
Self-employed in own practice (15 years), specialising in internal medicine, paediatrics, emergency medicine, cardiovascular diseases, stress medicine, microcirculation, coronary heart disease, heart failure, lung diseases, oncological diseases with regard to preceding inflammation, immunodeficiency and lack of energy. Since 2008 to date: Ship's doctor, accompanied travellers as the sole responsible doctor worldwide, including several transatlantic crossings. Use of sonography, laboratory, X-ray, intensive care.Scientific focus on microcirculation and endothelial cell functions since 2004, 1st publication for Springer Nature in 2022. Article in Deutsche Medizinische Wochenschrift 2022, 1st peer-reviewed paper 2023, 2nd peer-reviewed paper 2024.



OLG-RES-2025APRIL29-002

Reference: Exhibit 29377-X0095, Appendix E - Curriculum Vitae of Dr. Ursula Maria Bellut-Staeck_Redacted

Issue: Dr. Bellut-Staeck Qualifications and Professional Experience

Responses

You will find the answers to questions a)-d) inner the timetable

Studies

04/77-10/83 Westphalian Wilhelms University of Münster and Eberhard-Karls-University in Tübingen

Working in different hospitals:

as a clinical trainee during my studies:

1) Olgahospital Stuttgart, Orthopaedics for children

2) Neurosurgery Stuttgart

3) Orthopaedics Gschwend Clinic Zürich

As doctor: (times see below):

Friedrichshafen Hospital
Central Hospital Ravensburg
Tettnang Hospital
Nagold Hospital Emergency Room
Brandenburg Hospital Emergency Room
Schongau Hospital Acute Geriatrics

b)

JASONA RONDEAU

Reply to OEHM presentation

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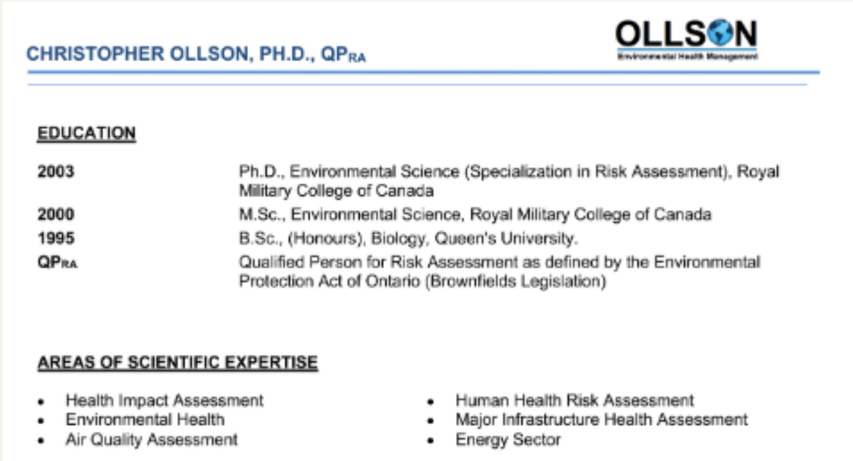


CHRISTOPHER OLLSON, PH.D., QP_{RA}

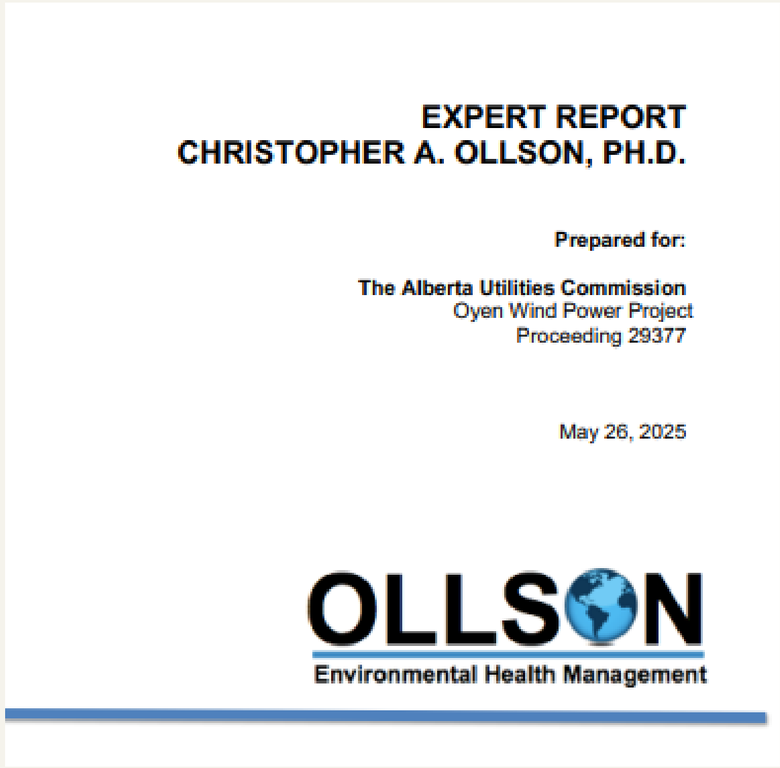
OLLSON Environmental Health Management

EDUCATION

2003	Ph.D., Environmental Science (Specialization in Risk Assessment), Royal Military College of Canada
2000	M.Sc., Environmental Science, Royal Military College of Canada
1995	B.Sc., (Honours), Biology, Queen's University.
QP_{RA}	Qualified Person for Risk Assessment as defined by the Environmental Protection Act of Ontario (Brownfields Legislation)

AREAS OF SCIENTIFIC EXPERTISE

- Health Impact Assessment
- Environmental Health
- Air Quality Assessment
- Human Health Risk Assessment
- Major Infrastructure Health Assessment
- Energy Sector



EXPERT REPORT
CHRISTOPHER A. OLLSON, PH.D.

Prepared for:

The Alberta Utilities Commission
Oyen Wind Power Project
Proceeding 29377

May 26, 2025

OLLSON
Environmental Health Management

JASONA RONDEAU
SOCIAL ADVOCACY CONSULTANT

Reply to OEHM presentation

Illinois County Board Hearings
Prairie Dock Solar, Livingston County CPV (2023)
Mural Solar, Vermillion County Liberty Power (2024)
Alberta Utilities Commission (AUC)

Proceeding No. 1955, Bull Creek Wind Project (2013)
Proceeding No. 3329, Grizzly Bear Creek Wind Project (2016)
Proceeding No. 22563, Halkirk 2 Wind Project (2017)
Proceeding No. 26214 Buffalo Plains Wind Farm (2021)
Proceeding No. 26677 Grizzly Bear Creek Wind Project (2022)
Proceeding No. 27240, Buffalo Trail Wind Project (2022)
Proceeding No. 27561, Forty Mile Wind Project (2023)
Proceeding No. 27691, Halkirk 2 Wind Power Project Update (2023)
Proceeding No. 27837, Willow Ridge Wind and BESS Project (2025)
Proceeding No. 29225, Fox Meadows Wind and BESS Project (2025)
Proceeding No. 29372, Sweetgrass Solar with Storage Project (2025)

Ontario Environmental Review Tribunal

Erickson v. MOE 2011	Suncor
Monture v. MOE 2012	Samsung
Moseley v. MOE 2014	Capstone
Lambton County v. MOE 2015	Suncor

EOCA v MOE 2015	ProWind

Wind Project Developers- Worked as Project Health Consultant of Record (Alphabetical)

- ABO, APEX, Algonquin Power, Avangrid, BluEarth, Boralex, Capital Power, Capstone, CPV, EDF, EDPR, Enel, Engie, InvEnergy, Liberty Power, Longyung Power, NextERA, Niagara Region Wind Corporation, Northland Power, Pattern Energy, Prowind, RES, Samsung, South Canoe Wind, Sprott, Suncor, Veresen, Vermont Public Services Department, WPD

Wind Turbine Conference Proceedings

Ollson, C.A., Bastasch, M., Knopper, L., Anderson, A., Leventhall, G. 2023. How Misinformation Derails Discussions for Permitting of Wind Turbine Energy Projects. 11th International Conference on Wind Turbine Noise. June 21-23, 2023. Conference Paper Accepted for Presentation.

Ollson, C.A. & Bastasch, M. Establishing Sound Limits for Wind Energy: What is the Role of Annoyance? 9th International Conference on Wind Turbine Noise Remote from Europe – 18th to 21st May 2021. Conference Paper published in the Proceedings

Whitfield Aslund, M.L., Berger, R.G.; Ashtiani, P.; **Ollson, C.A.**; McCallum L.C.; Leventhall, G.; Knopper, L.D. 2015. Health-based audible noise guidelines account for infrasound and low frequency noise produced by wind turbines. *Proceedings of the 6th International Conference on Wind Turbine Noise, April 2015, Glasgow, Scotland.*

Whitfield Aslund, M.L., Ollson, C.A., Knopper, L.D. 2013. 'Projected contributions of future wind farm development to community noise and annoyance levels in Ontario, Canada', submitted for publication in *Proceedings of the 5th International Conference on Wind Turbine Noise, Denver Colorado 28-30 August 2013*

Knopper, L.D., Whitfield Aslund, M.L., McCallum, L.C., Ollson, C.A. 2013. 'Wind turbine noise: What has the Science Told Us?', submitted for publication in *Proceedings of the 5th International Conference on Wind Turbine Noise, Denver Colorado 28-30 August 2013*

Conference Presentations on Wind Turbines and Health

Ollson, C.A. 2025. Won't Somebody Think of the Children: Addressing Public Health and Safety Concerns in Renewable Energy. CleanPower. Phoenix

Ollson, C.A. 2025. The Experts: Insights and Strategies for Community Acceptance and Permitting. ACP Siting and Permitting Conference. Seattle.

Ollson, C.A & Bastasch, M. 2021. Establishing Sound Limits for Wind Energy: What is the Role of Annoyance? 9th International Conference on Wind Turbine Noise Remote from Europe – 18th to 21st May 2021

Ollson, C.A., 2015. Effective Communication Strategies for Addressing Health Concerns. CanWEA annual conference.

Ollson, C.A. 2014. Responding to Health Concerns. CanWEA annual conference.

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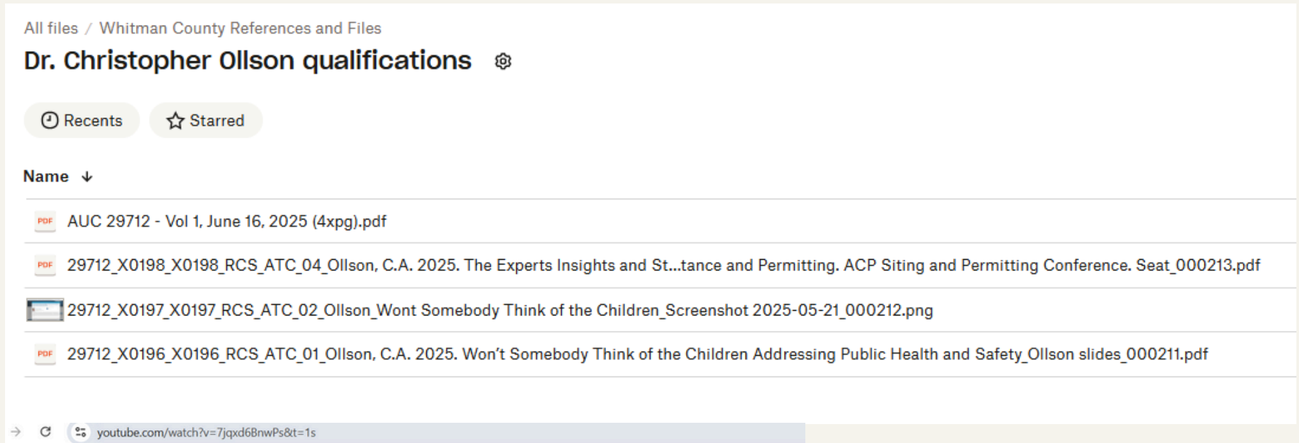
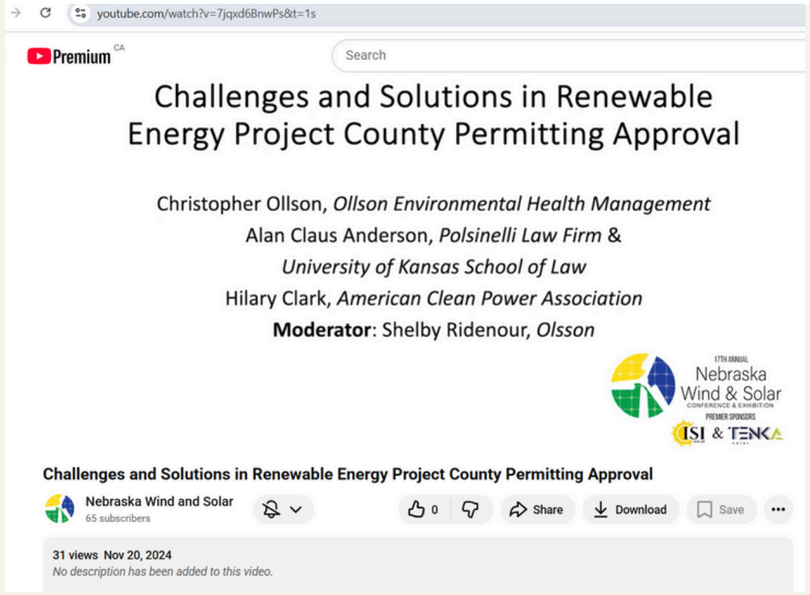
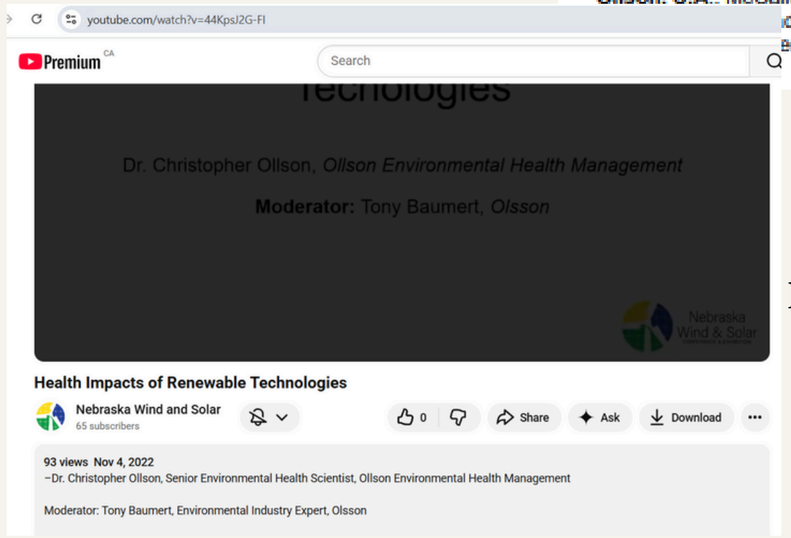
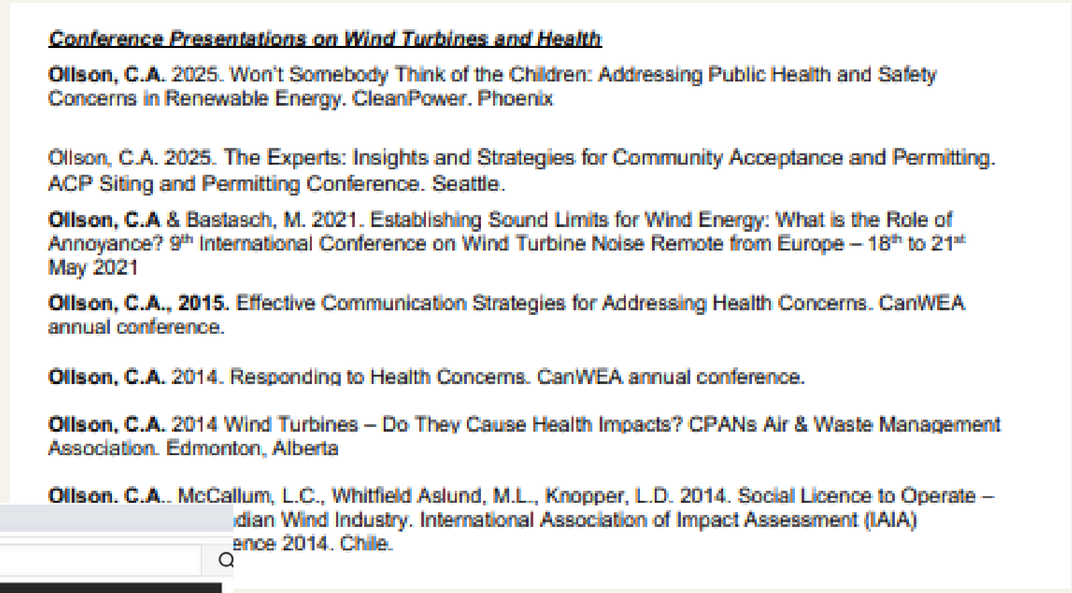
Reply to OEHM presentation









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Ollson, C.A. 2025. Won't Somebody Think of the Children: Addressing Public Health and Safety Concerns in Renewable Energy. CleanPower. Phoenix

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Ollson, C.A & Bastasch, M. 2021. Establishing Sound Limits for Wind Energy: What is the Role of Annoyance? 9th International Conference on Wind Turbine Noise Remote from Europe – 18th to 21st May 2021

Ollson, C.A., 2015. Effective Communication Strategies for Addressing Health Concerns. CanWEA annual conference.

Ollson, C.A. 2014. Responding to Health Concerns. CanWEA annual conference.

Ollson, C.A. 2014 Wind Turbines – Do They Cause Health Impacts? CPANs Air & Waste Management Association. Edmonton, Alberta

Ollson, C.A., McCallum, L.C., Whitfield Aslund, M.L., Knopper, L.D. 2014. Social Licence to Operate – dian Wind Industry. International Association of Impact Assessment (IAIA) ence 2014. Chile.

https://www.youtube.com/watch?v=7jqxd6BnwPs&t=1s

https://www.youtube.com/watch?v=44KpsJ2G-FI

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Quality of Evidence

Peer-Review &
Databases

Open Access vs.
Pay-to-Play
mentality

Affiliations &
Conflicts of
Interest

Undefined list of
150 peer-reviewed
papers

Alberta is a
relevant
regulatory context
and it has been
omitted

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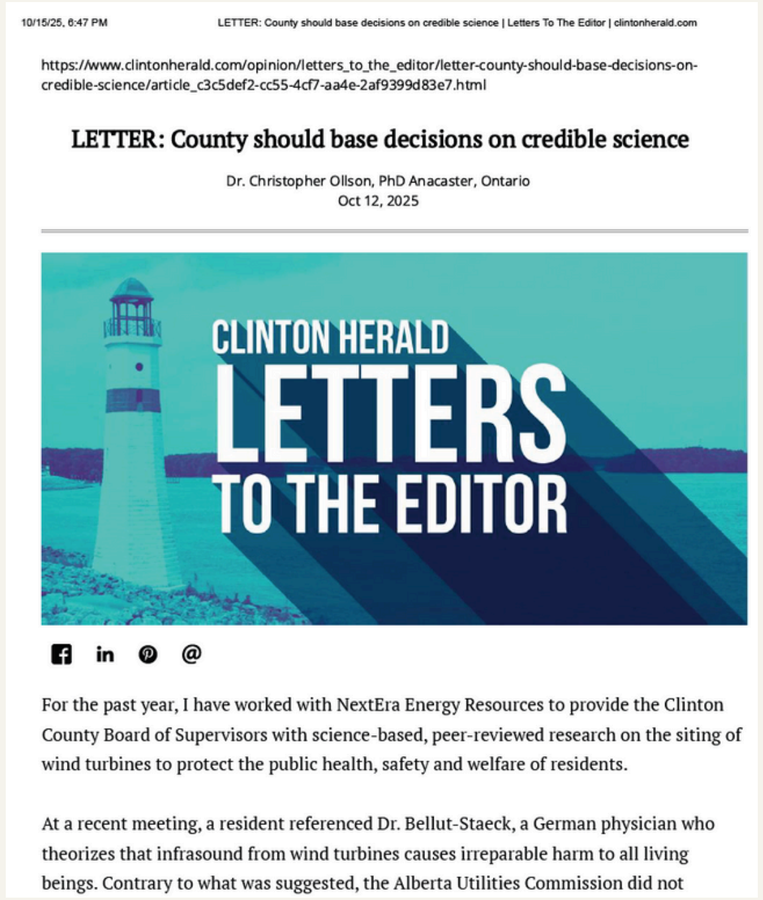
Weight of Cumulative Evidence

Municipalities Which Have Adopted Unwilling Host Resolutions

1. Addington Highlands, Lennox/Addington County
2. Adelaide-Metcalfe, Middlesex County
3. Alberton, Rainy River
4. Alfred & Plantagenet, Prescott-Russell County
5. Alnwick-Haldimand, Northumberland County
6. Amaranth, Dufferin County
7. Amherstburg, Essex County
8. Asphodel-Norwood. Peterborough County
9. Algonquin Highlands, Haliburton County
10. Armour, District of Parry Sound
11. Arran-Elderslie, Bruce County
12. Ashfield-Colborne-Wawanosh, Huron County
13. Blandford-Blenheim, Oxford County
14. Blue Mountains, Grey County
15. Bluewater, Huron County
16. Billings, Manitoulin
17. Bonnechere Valley, Renfrew County
18. Brethour, Timiskaming District
19. Brockton, Bruce
20. Brooke-Alvinston, Lambton County
21. Bruce Mines, Algoma District
22. Calvin, Nipissing District
23. Cavan-Monaghan, Peterborough
24. Central Elgin, Elgin
25. Central Huron, Huron
26. Centre Wellington, Wellington County
27. Chamberlain, Timiskaming
28. Champlain, Prescott-Russell
29. Charlton and Dack, Timiskaming District
30. Chatsworth, Grey County
31. Chisholm, Nipissing District
32. Clarington, Region of Durham
33. Clearview, Simcoe
34. Coleman, Timiskaming District
35. Dawn-Euphemia, Lambton County
36. Dutton-Dunwich, Elgin
37. Dufferin, County of
38. Dubreuilville, Algoma
39. East Ferris, Nipissing District
40. East Garafraxa, Dufferin County
41. East Hawkesbury, Prescott-Russell
42. East Zorra-Tavistock, Oxford



10/15/25, 6:47 PM LETTER: County should base decisions on credible science | Letters To The Editor | clintonherald.com

https://www.clintonherald.com/opinion/letters_to_the_editor/letter-county-should-base-decisions-on-credible-science/article_c3c5def2-cc55-4cf7-aa4e-2af9399d83e7.html

LETTER: County should base decisions on credible science

Dr. Christopher Ollson, PhD Anacaster, Ontario
Oct 12, 2025

For the past year, I have worked with NextEra Energy Resources to provide the Clinton County Board of Supervisors with science-based, peer-reviewed research on the siting of wind turbines to protect the public health, safety and welfare of residents.

At a recent meeting, a resident referenced Dr. Bellut-Staeck, a German physician who theorizes that infrasound from wind turbines causes irreparable harm to all living beings. Contrary to what was suggested, the Alberta Utilities Commission did not

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Health Concerns Raised

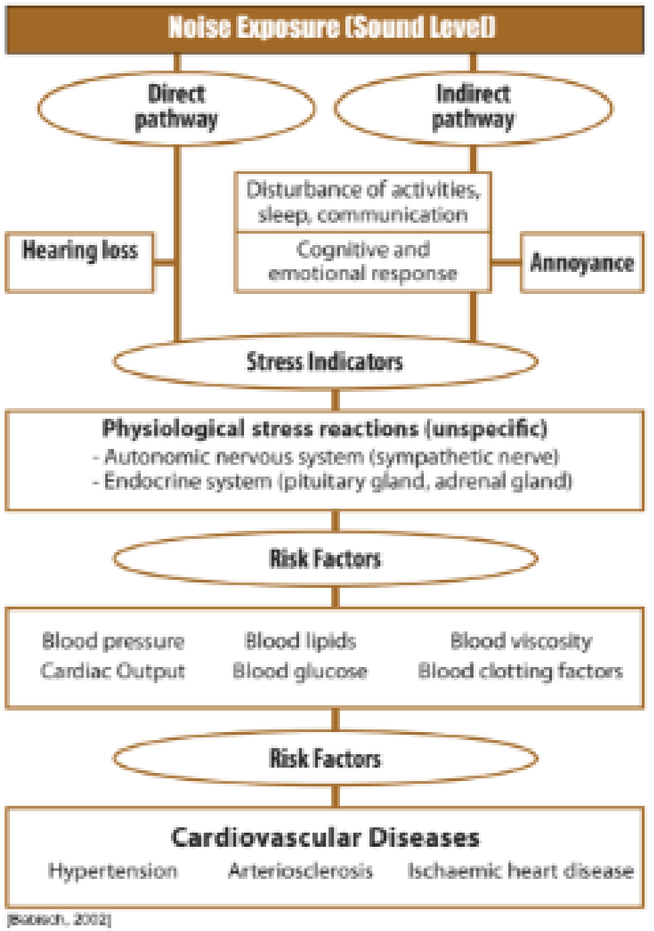
All files / Whitman County References and Files / Folder for Minister Neudorf

Human Health Impacts and Complaints

Recents | Starred

Name ↓

- WindVOiCe poster inforgraphic.pdf
- Wind_turbines_and_adverse_health_effects_Applying_.pdf
- Wind_Turbine_IncidentComplaint_Reports_in_Ontario_.pdf
- Wind_Turbine_Acoustic_Investigation_Infrasound_and (1).pdf
- Wind Turbine Infrasound Phenomenology and effect on people.pdf
- WHO Night noise guidelines for Europe Chapter 4 Effects on Health.pdf
- Vacated-abandonedhomesstudyoverviewJune282020.pdf
- salt-lichtenhan-internoise2012.pdf
- Responses of the ear to low frequency sounds infrasound and wind turbines.pdf
- Report-on-Noise-Complaint-Response-2018-FINAL (1).pdf
- Properly_Interpreting_the_Epidemiologic_Evidence_A.pdf
- Position of the National Institute of Public Health – National Institute of Hygiene on wind farms – NIZP PZH - PIB.pdf
- Phillips, C., Properly Interpreting the Epidemiologic Evidence About the Health Effects of Industrial Wind Turbines on Residents.pdf
- Ontario Unwilling-Hosts-Nov29 2024.pdf
- Occupational Health and Industrial Wind Turbines A case study.pdf
- NoActionLikelyNovember2024.pdf



[Babisch, 2002]

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Health Canada Study vs. Vacated Homes Study

Request:

(a) Provide the full Health Canada Study report.

(b) Has Health Canada released further results regarding its analysis of infrasound since 2015? If so, please provide the results of further analysis from Health Canada.

(c) Has Health Canada completed a study on the impacts of wind turbine development on animal (livestock) health and milk production? If so, please provide copies of such studies.

Response:

(a) The 2014 summary of the Health Canada study can be found here:

https://www.canada.ca/en/health-canada/services/health-risks-safety/radiation/everyday-things-emit-radiation/wind-turbine-noise/wind-turbine-noise-health-study-summary-results.html

However, these were the preliminary study results. The details of the Health Canada studies are found within their scientific publications, most of which are listed here:

https://www.canada.ca/en/health-canada/services/health-risks-safety/radiation/everyday-things-emit-radiation/wind-turbine-noise/scientific-journal-publications-environmental-workplace-health.html

They have all been published in Open Access journals and can be accessed online by searching for the individual titles.

(b) Health Canada has not published work on infrasound since 2015. However, there have been numerous scientific studies and peer-reviewed papers on the topic published over the past decade. A recent review of this literature that was presented to the AUC can be found in Exhibit 29226-X0146, Appendix B.

The latest comprehensive review that includes consideration of infrasound can be found in *Van Kamp, I & van den Berg, F. 2021. Health Effects Related to Wind Turbine Sound: An Update. Int. J. Environ. Res. Public Health 2021, 18, 9133 https://www.mdpi.com/1660-4601/18/17/9133.*

(c) Health Canada has not conducted studies on the impacts of wind turbines on livestock health. Details of a recent review of wind turbines and animal (livestock) impacts can be found in Exhibit 29226-X0146, Appendix C.

Wind Turbines: Why Some Families Living in Proximity to Wind Energy Facilities Contemplate Vacating Their Homes: An Overview of Findings

Article *in* Open Access Library Journal · January 2020
DOI: 10.4236/oalib.1106443

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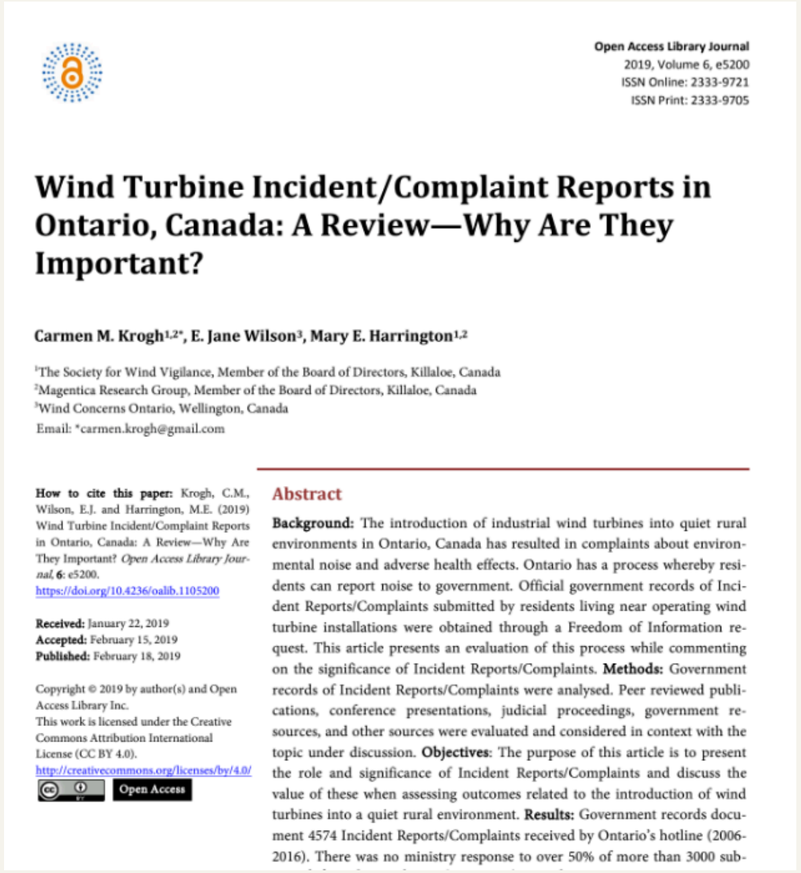
New Paradigm to Consider

- Infrasound Impacts at the Cellular Level flyer
- AUC Rule 012
- Health Canada vs. Nobel Prize research



Open Access Library Journal
2019, Volume 6, e5200
ISSN Online: 2333-9721
ISSN Print: 2333-9705

Wind Turbine Incident/Complaint Reports in Ontario, Canada: A Review—Why Are They Important?

Carmen M. Krogh[1,2*], E. Jane Wilson[3], Mary E. Harrington[1,2]

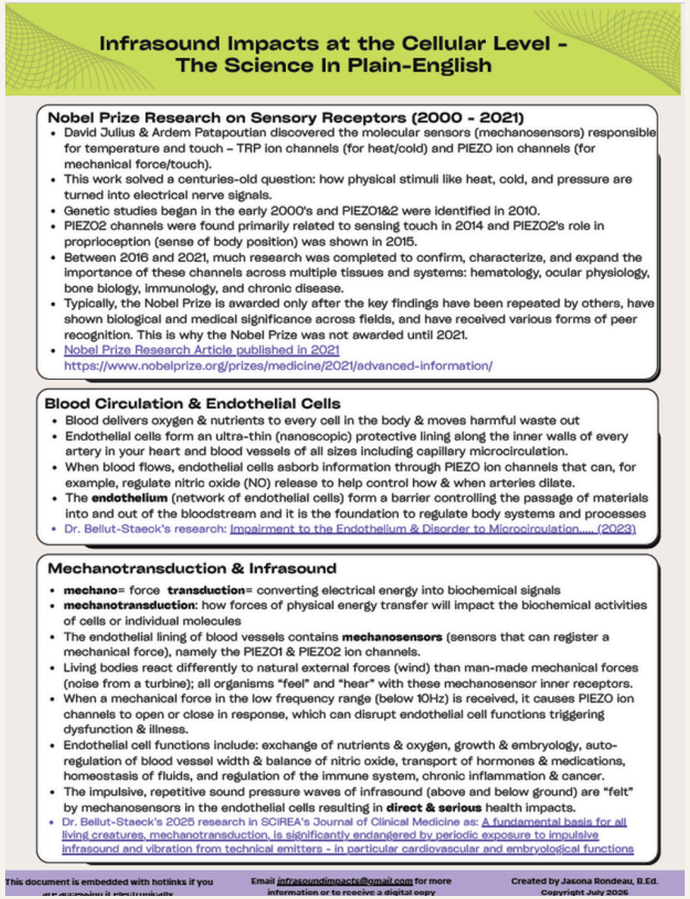
[1]The Society for Wind Vigilance, Member of the Board of Directors, Killaloe, Canada
[2]Magentica Research Group, Member of the Board of Directors, Killaloe, Canada
[3]Wind Concerns Ontario, Wellington, Canada
Email: *carmen.krogh@gmail.com

How to cite this paper: Krogh, C.M., Wilson, E.J. and Harrington, M.E. (2019) Wind Turbine Incident/Complaint Reports in Ontario, Canada: A Review—Why Are They Important? *Open Access Library Journal*, **6**: e5200.
https://doi.org/10.4236/oalib.1105200

Received: January 22, 2019
Accepted: February 15, 2019
Published: February 18, 2019

Abstract

Background: The introduction of industrial wind turbines into quiet rural environments in Ontario, Canada has resulted in complaints about environmental noise and adverse health effects. Ontario has a process whereby residents can report noise to government. Official government records of Incident Reports/Complaints submitted by residents living near operating wind turbine installations were obtained through a Freedom of Information request. This article presents an evaluation of this process while commenting on the significance of Incident Reports/Complaints. **Methods:** Government records of Incident Reports/Complaints were analysed. Peer reviewed publications, conference presentations, judicial proceedings, government resources, and other sources were evaluated and considered in context with the topic under discussion. **Objectives**: The purpose of this article is to present the role and significance of Incident Reports/Complaints and discuss the value of these when assessing outcomes related to the introduction of wind turbines into a quiet rural environment. **Results:** Government records document 4574 Incident Reports/Complaints received by Ontario's hotline (2006-2016). There was no ministry response to over 50% of more than 3000 sub-



Infrasound Impacts at the Cellular Level - The Science In Plain-English

Nobel Prize Research on Sensory Receptors (2000 - 2021)

- David Julius & Ardem Patapoutian discovered the molecular sensors (mechanosensors) responsible for temperature and touch – TRP ion channels (for heat/cold) and PIEZO ion channels (for mechanical force/touch).
- This work solved a centuries-old question: how physical stimuli like heat, cold, and pressure are turned into electrical nerve signals.
- Genetic studies began in the early 2000's and PIEZO1&2 were identified in 2010.
- PIEZO2 channels were found primarily related to sensing touch in 2014 and PIEZO2's role in proprioception (sense of body position) was shown in 2015.
- Between 2016 and 2021, much research was completed to confirm, characterize, and expand the importance of these channels across multiple tissues and systems: hematology, ocular physiology, bone biology, immunology, and chronic disease.
- Typically, the Nobel Prize is awarded only after the key findings have been repeated by others, have shown biological and medical significance across fields, and have received various forms of peer recognition. This is why the Nobel Prize was not awarded until 2021.
- Nobel Prize Research Article published in 2021
  https://www.nobelprize.org/prizes/medicine/2021/advanced-information/

Blood Circulation & Endothelial Cells

- Blood delivers oxygen & nutrients to every cell in the body & moves harmful waste out
- Endothelial cells form an ultra-thin (nanoscopic) protective lining along the inner walls of every artery in your heart and blood vessels of all sizes including capillary microcirculation.
- When blood flows, endothelial cells asborb information through PIEZO ion channels that can, for example, regulate nitric oxide (NO) release to help control how & when arteries dilate.
- The **endothelium** (network of endothelial cells) form a barrier controlling the passage of materials into and out of the bloodstream and it is the foundation to regulate body systems and processes
- Dr. Bellut-Staeck's research: Impairment to the Endothelium & Disorder to Microcirculation..... (2023)

Mechanotransduction & Infrasound

- **mechano**= force **transduction**= converting electrical energy into biochemical signals
- **mechanotransduction**: how forces of physical energy transfer will impact the biochemical activities of cells or individual molecules
- The endothelial lining of blood vessels contains **mechanosensors** (sensors that can register a mechanical force), namely the PIEZO1 & PIEZO2 ion channels.
- Living bodies react differently to natural external forces (wind) than man-made mechanical forces (noise from a turbine); all organisms "feel" and "hear" with these mechanosensor inner receptors.
- When a mechanical force in the low frequency range (below 10Hz) is received, it causes PIEZO ion channels to open or close in response, which can disrupt endothelial cell functions triggering dysfunction & illness.
- Endothelial cell functions include: exchange of nutrients & oxygen, growth & embryology, auto-regulation of blood vessel width & balance of nitric oxide, transport of hormones & medications, homeostasis of fluids, and regulation of the immune system, chronic inflammation & cancer.
- The impulsive, repetitive sound pressure waves of infrasound (above and below ground) are "felt" by mechanosensors in the endothelial cells resulting in **direct & serious** health impacts.
- Dr. Bellut-Staeck's 2025 research in SCIREA's Journal of Clinical Medicine as: A fundamental basis for all living creatures, mechanotransduction, is significantly endangered by periodic exposure to impulsive infrasound and vibration from technical emitters - in particular cardiovascular and embryological functions

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Recommendations & Conclusion

- setbacks from residences
- much more research to consider than what has been presented to date
- further consultation with Dr. Bellut-Staeck can easily be arranged virtually