

**First International Symposium on Adverse Health Effects from Wind Turbines  
The Global Wind Industry and Adverse Health Effects: Loss of Social Justice?  
Picton, Prince Edward County, Ontario, Canada  
October 29-31, 2010**

**Session V  
The Consequences – Violation of Social Justice**

Abstract and bio on slide 2 is reproduced from the Symposium Program

# First International Symposium on Adverse Health Effects from Wind Turbines

## The Global Wind Industry and Adverse Health Effects: Loss of Social Justice?

Picton, Prince Edward County, Ontario, Canada

October 29-31, 2010

**Carmen Krogh, B. Sc. Pharmacy**

### **A GROSS INJUSTICE**

**Abstract:** “I trusted the wind energy companies” - “I can’t believe the government is doing this to me“

Those experiencing symptoms feel victimized by the very systems that would normally protect them. The lack of social justice hurts deeply. Many families are affected by the industrial wind turbines sited too close to their homes. In some cases Ontario families have abandoned their homes to protect their health. Some have had to sign non-disclosure agreements as a condition of a buy out of their homes by the wind developer. Their grief is exacerbated by the emotional toll, disturbed living conditions, loss of enjoyment of their homes and property, and financial loss and the negative impact to the health of their families.

**Bio:** Carmen Krogh is a retired pharmacist with more than 40 years of experience in health. She has made a number of presentations throughout Ontario and other jurisdictions about the adverse health effects associated with wind turbines. Krogh and Gillis are conducting the WindVOiCe © (Wind Vigilance for Ontario Communities) self reporting health survey. She formed the support network VOW© (the Victims of Wind) whose members are suffering adverse health effects associated with industrial wind turbines. She is in touch with many victims in Ontario and other jurisdictions. Krogh has held senior executive positions at a major teaching hospital, a professional association and Health Canada (Pest Management Regulatory Agency). She was a former Director of Publications and Editor-in-chief of the *Compendium of pharmaceuticals and Specialties (CPS)*, the book used in Canada for prescribing information on prescription medication. Doctors, pharmacists, nurses, and other health care professionals use this publication in their daily practice.

# Adverse Health Effects and Industrial Wind Turbines

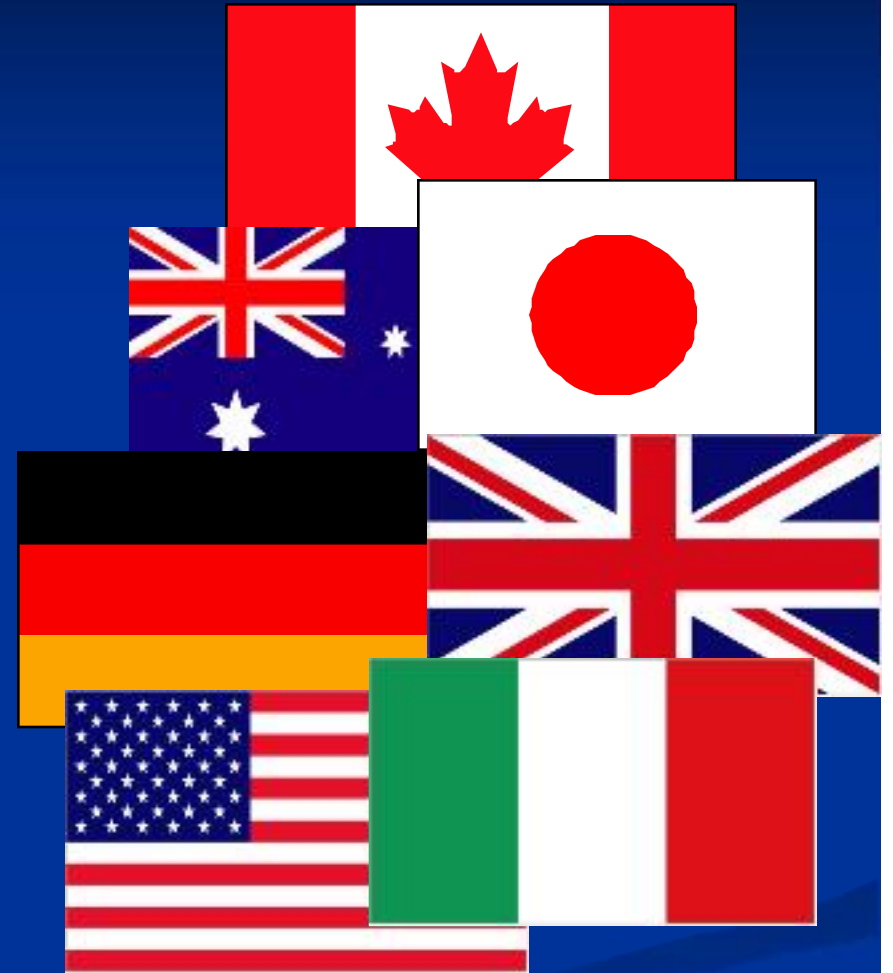
## A Gross Injustice?

Carmen Krogh, BScPharm  
October 30, 2010

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# 30 Minutes

- Social justice – WHO
- Snapshot of acknowledgments: adverse health effects – LFN
- Victim impact statements



# Social Justice = Health

- “Social justice is a matter of life and death. It affects the way people live, their consequent chance of illness, and their risk of premature death.”
  - World Health Organization, Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health, 2008

# 3 overarching principles

I	Improve Daily Living Conditions
II	Tackle the Inequitable Distribution of Power, Money, and Resources
III	Measure and Understand the Problem and Assess the Impact of Action

World Health Organization, Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health, 2008

# I Improve Daily Living Conditions

- “Place health and health equity at the heart of urban governance and planning.”
  - World Health Organization, Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health, 2008: First overarching principle

# Policy impacts health

- “Different government policies, depending on their nature, can either improve or worsen health and health equity.”
  - World Health Organization, Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health, 2008



# Victim impact statement on living conditions

- “I am a German victim of the impacts...The situation for my family and for many other families in the neighbourhood is totally intolerable and beyond endurance!!”


■ Personal communication RR, Germany



# Wind turbine noise may cause:



Annoy      Stress      Sleep  
Disturb

ONTARIO'S PUBLIC HEALTH AGENCY 

## Wind Turbines and Health : A Review of Evidence

✓      ✓      ✓

## Wind Turbine Sound and Health Effects

### An Expert Panel Review

Prepared for:  
American Wind Energy Association  
and  
Canadian Wind Energy Association  
December 2009

✓      ✓      ✓

 National Collaborating Centre for Environmental Health  
Centre de collaboration nationale en santé environnementale

## Wind Turbines and Health

Karen Rideout, Ray Copes, Constance Boz

## Wind turbines and environmental assessment

✓      ✓      ✓

OCT 21 2009

MEMORANDUM

TO: Medical Officers of Health  
Environmental Health Directors

RE: Wind Turbines

  
Arlene King, MD, MHSoc, FRCPC  
Chief Medical Officer of Health





✓      ✓      ✓

# Annoyance - an adverse health effect

- “...annoyance...is considered an adverse health effect by the World Health Organization.” \*
- “...a causal chain exists between the three steps health – strong annoyance – increased morbidity.” \*\*

- Health Canada <http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/life-vie/community-urbain-eng.php#he> \*
- World Health Organization, Guidelines for Community Noise, 1999
- Niemann, H, et al., WHO LARES Final report Noise effects and morbidity, 2004 \*\*

# Wind turbines may cause low frequency noise induced annoyance

<b>Wind Turbine Sound and Health Effects</b> <b>An Expert Panel Review</b>	Prepared for: American Wind Energy Association and Canadian Wind Energy Association	
The Potential Health Impact of Wind Turbines	December 2009 Chief Medical Officer of Health (CMOH) Report May 2010	
<b>Lavfrekvent støj</b> <b>fra store vindmøller</b>	 AALBORG UNIVERSITET	

# Effects of low frequency noise annoyance and stress

- “Regulatory authorities must accept that annoyance by low frequency noise presents a real problem...”
- “The claim that their "lives have been ruined" by the noise is not an exaggeration...”
  - Leventhall HG. Low frequency noise and annoyance. Noise Health [serial online] 2004 [cited 2009 Dec 31];6:59-72. Available from: <http://www.noiseandhealth.org/text.asp?2004/6/23/59/31663>

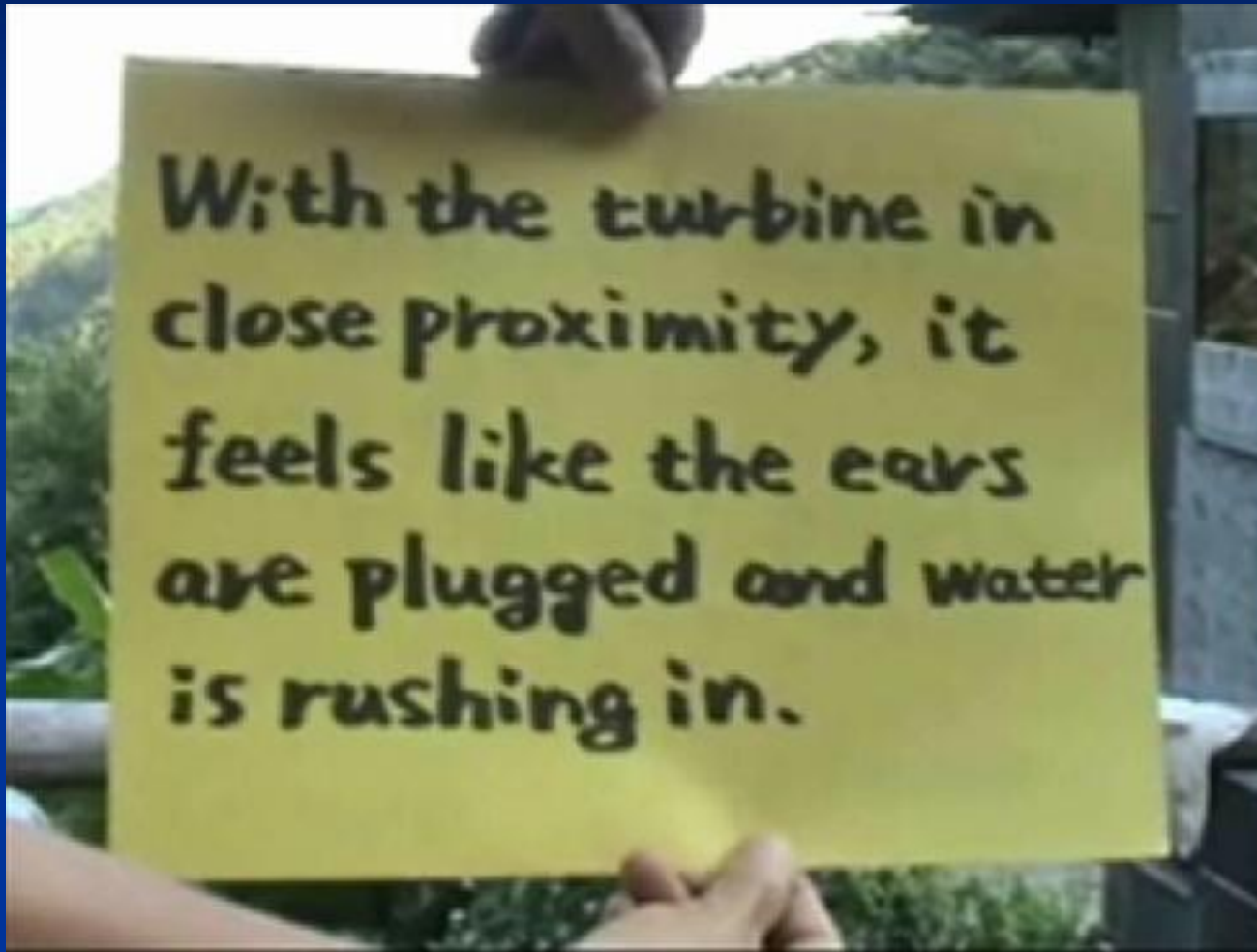
# Victim impact statement

- “I noticed...for the first time 3 years ago. That I woke up at night with tachycardia and I couldn't explain it.”
  - “I went to the doctor because I thought it was a heart defect.”
  - “The result was that my heart was completely ok.”
  - “The faster the wind turbines are running the stronger the tachycardia.”
- transcribed from video presented at symposium





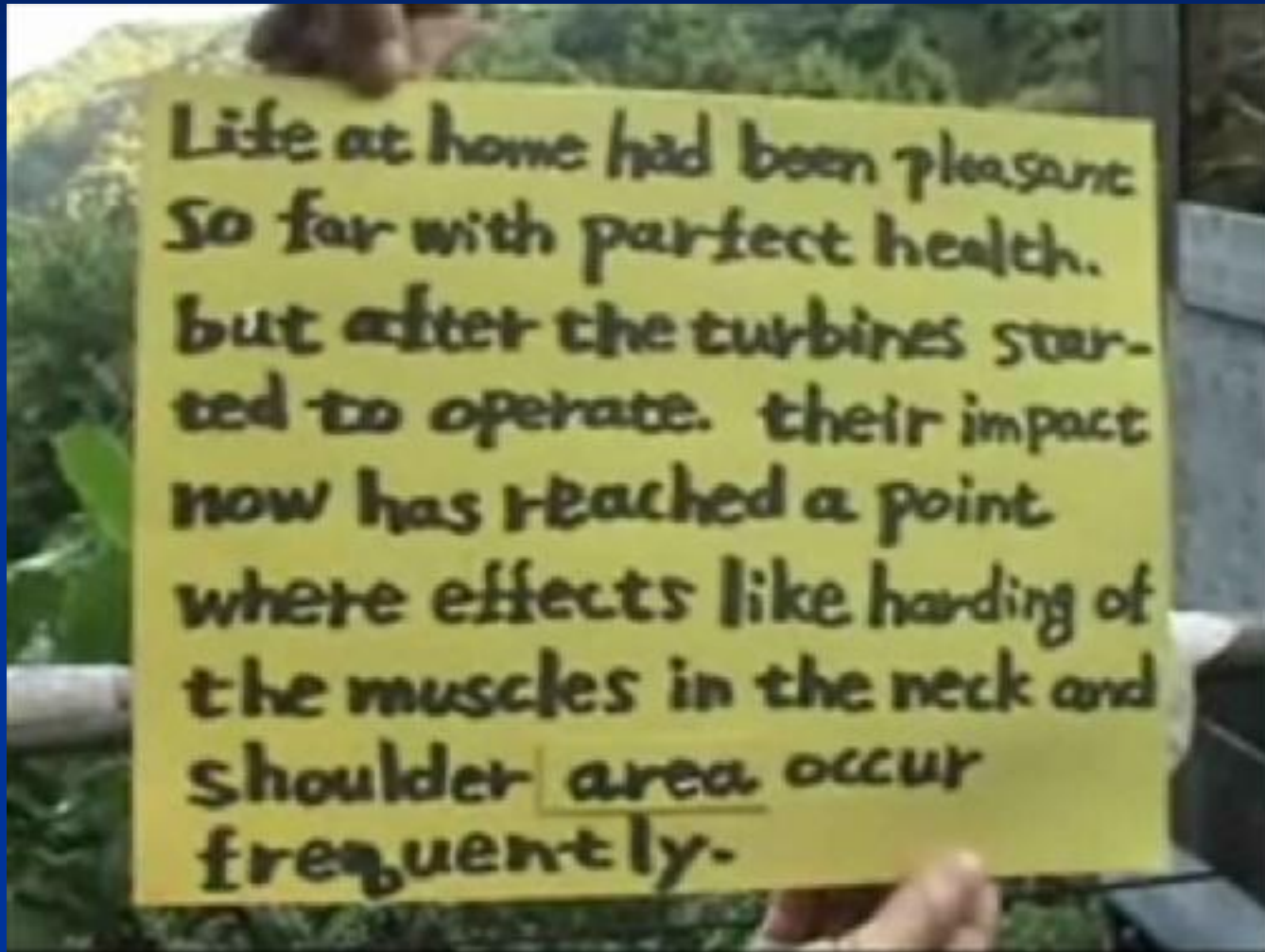
# Victim impact statement



- picture from video presented at symposium



# Victim impact statement

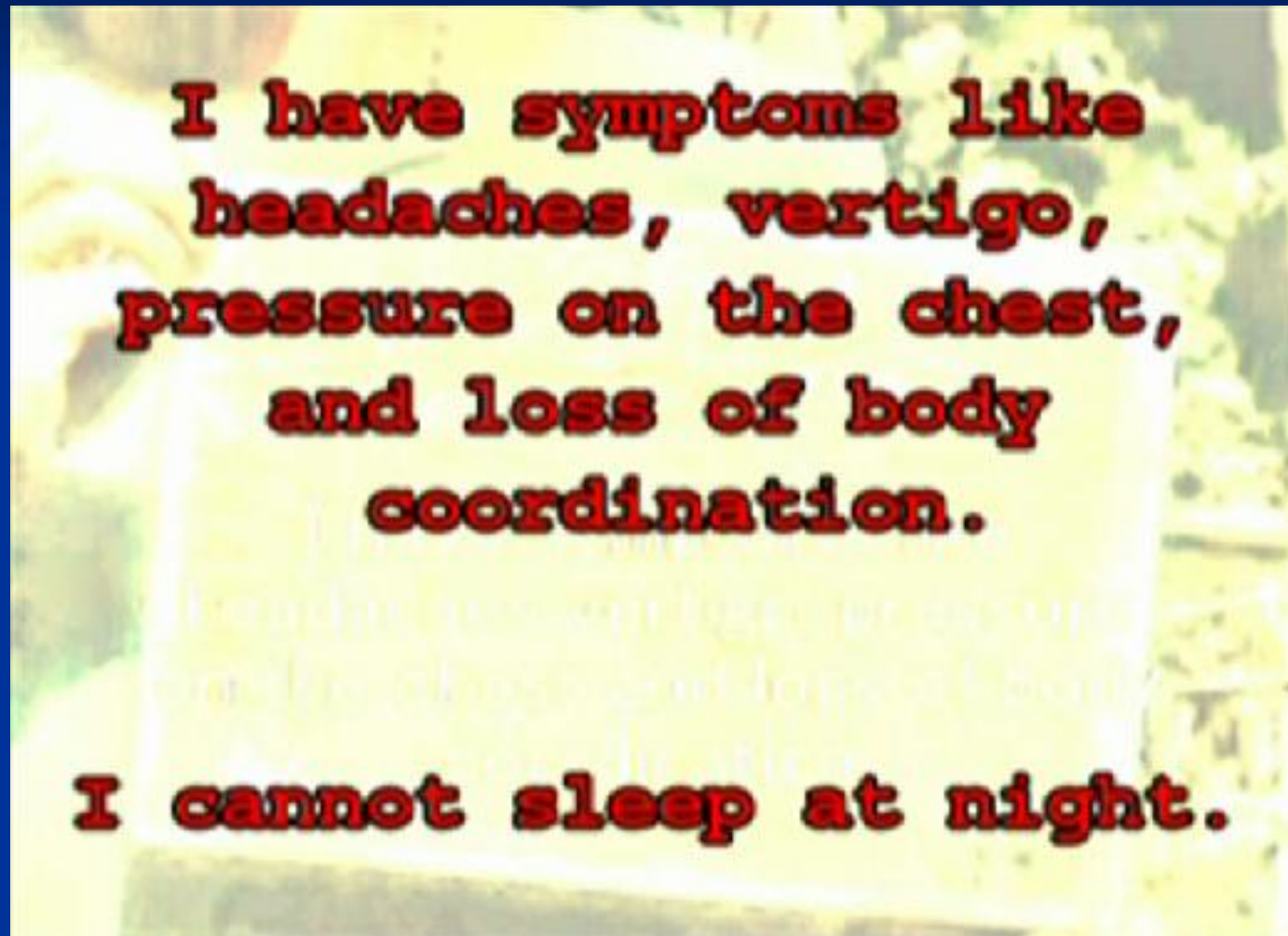


- picture from video presented at symposium





# Victim impact statement



- picture from video presented at symposium



# Acknowledgement of wind turbine symptoms

- “The symptoms... sleep disturbance, headache, tinnitus, ear pressure, dizziness, vertigo, nausea, visual blurring, tachycardia, irritability, problems with concentration and memory, and panic attack episodes associated with sensations of internal pulsation or quivering when awake or asleep...  
.. I am happy to accept these symptoms, as they have been known to me for many years as the symptoms of extreme psychological stress from environmental noise, particularly low frequency noise.”

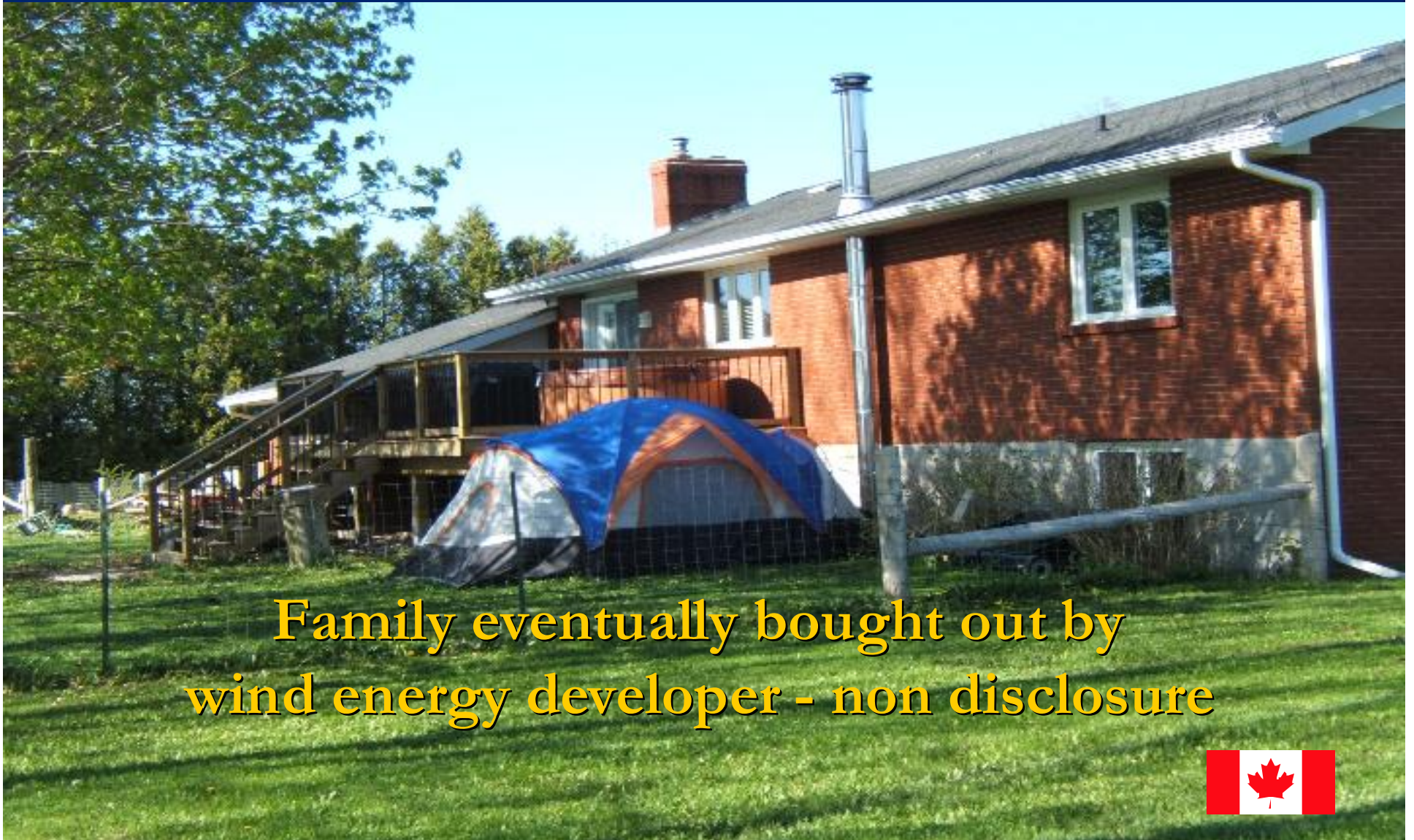
- Leventhall, H.G., (2009). Wind Turbine Syndrome - An appraisal. Testimony before the Public Service Commission of Wisconsin, PSC Ref#121877 20 October 2009

# Low frequency noise induced annoyance

- “Those exposed may adopt protective strategies, such as sleeping in their garage if the noise is less disturbing there. Or they may sleep elsewhere, returning to their own homes only during the day.”
- Leventhall HG. Low frequency noise and annoyance. Noise Health [serial online] 2004 [cited 2009 Dec 31];6:59-72. Available from: <http://www.noiseandhealth.org/text.asp?2004/6/23/59/31663>



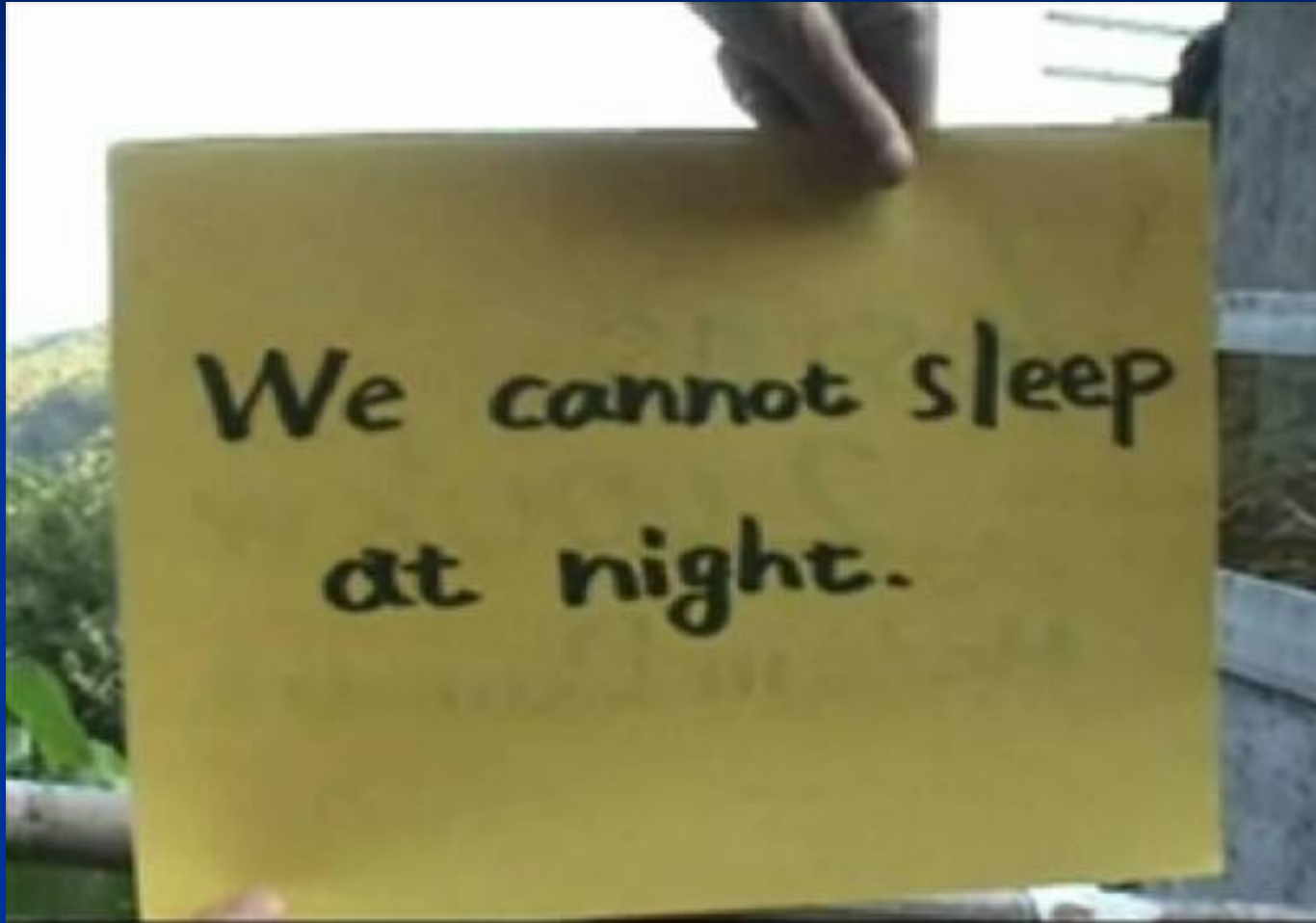
# Family sleeps in tent to escape turbine LFN



Family eventually bought out by wind energy developer - non disclosure



# Victim impact statement

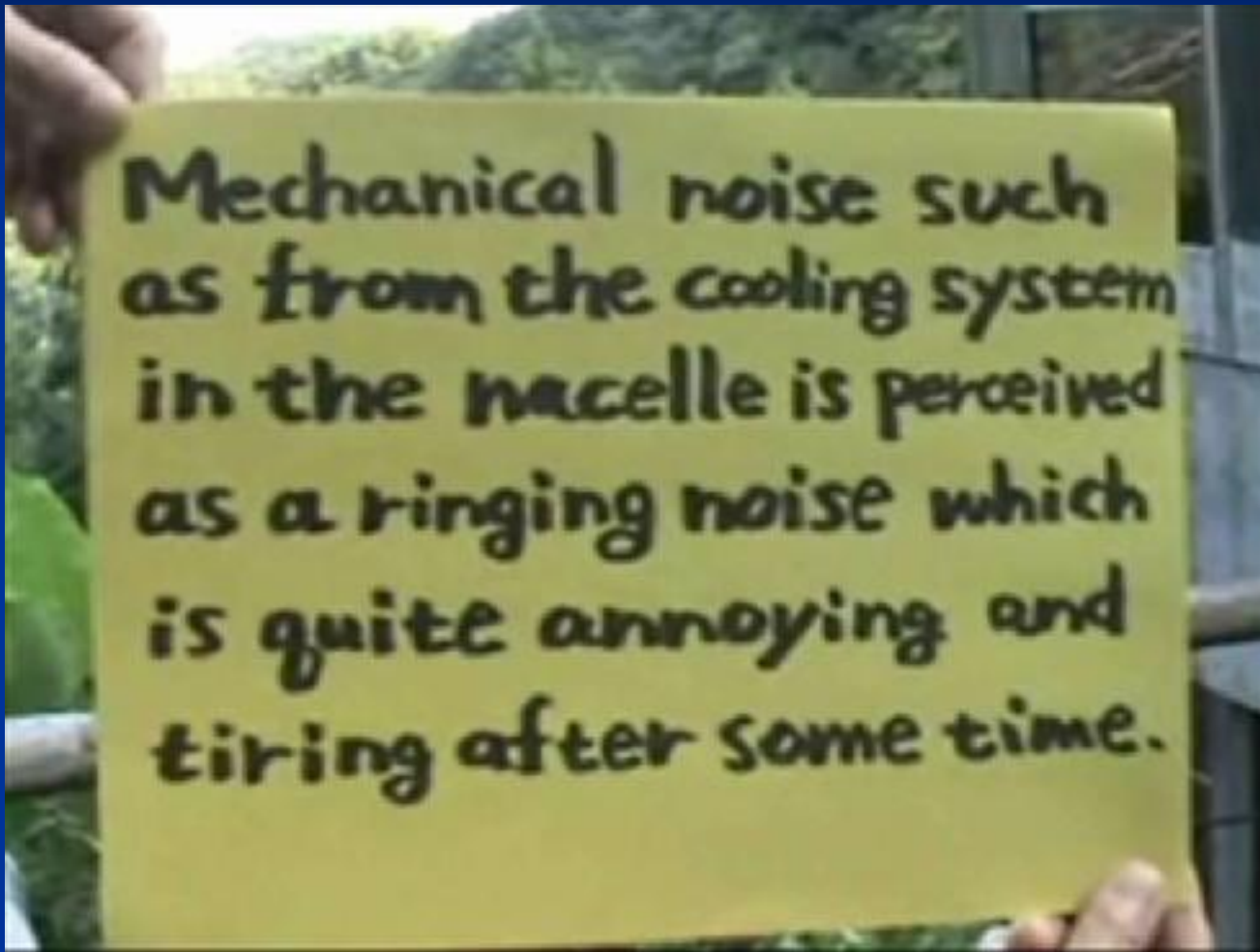


- picture from video presented at symposium





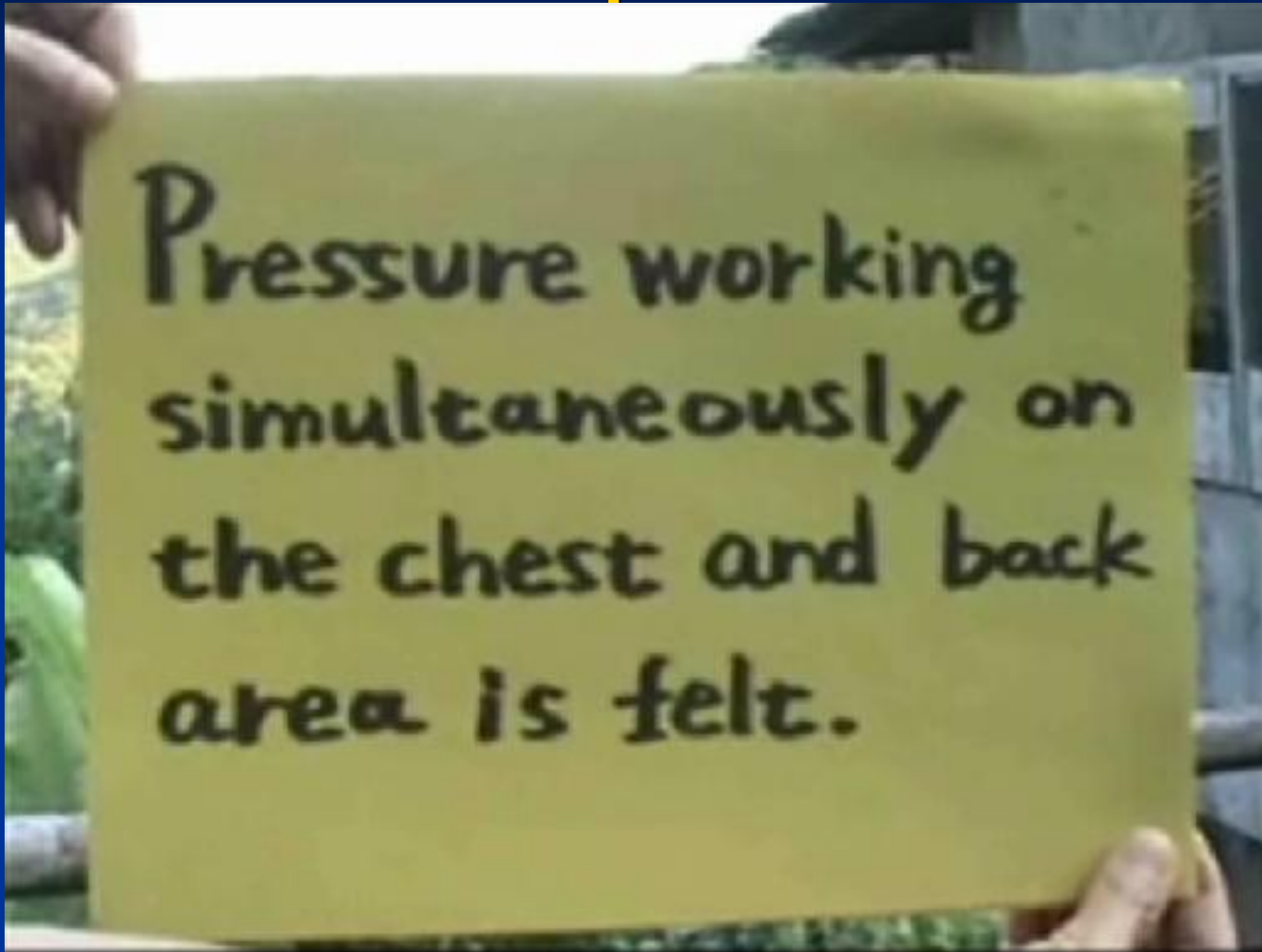
# Victim impact statement



- picture from video presented at symposium



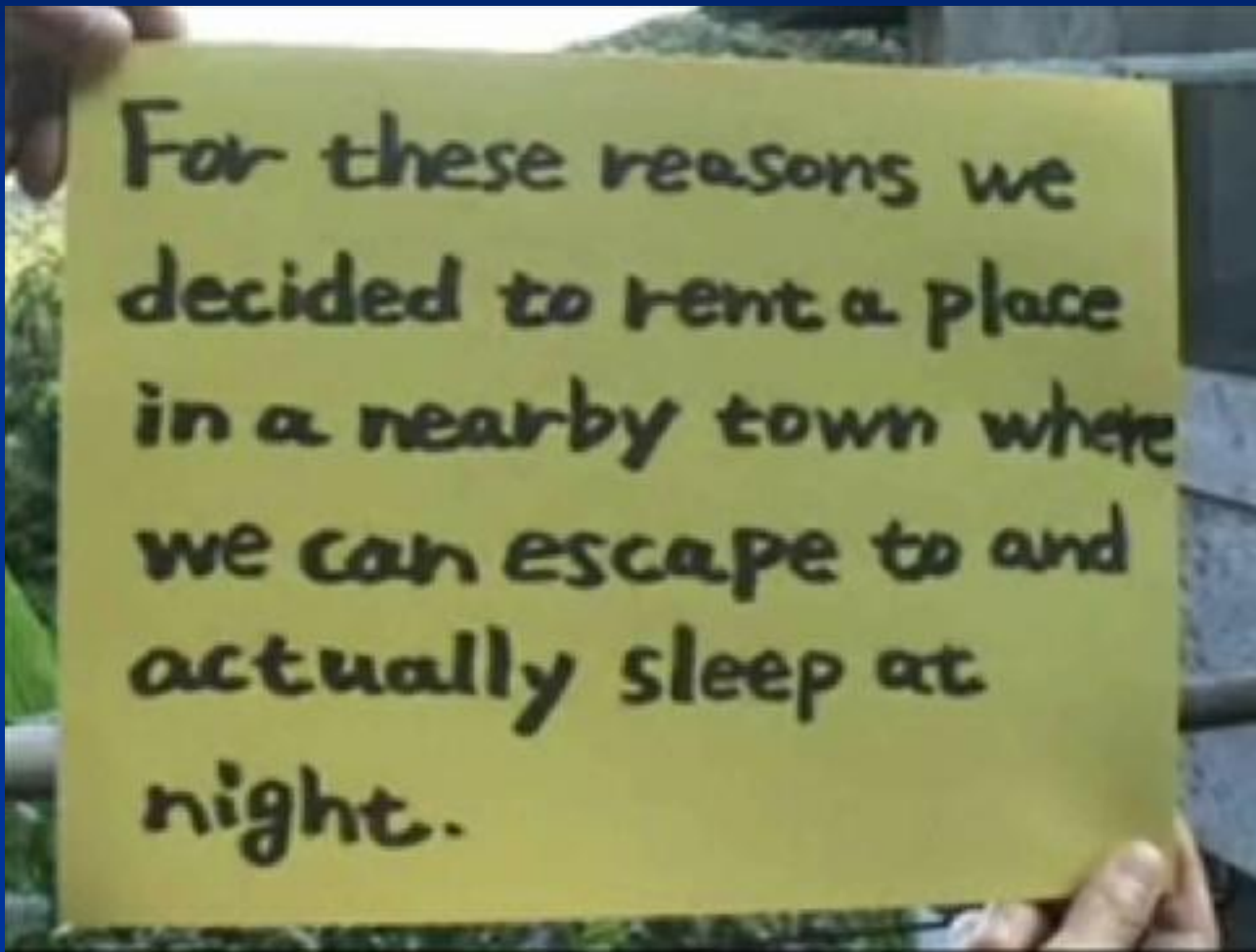
## Victim impact statement



- picture from video presented at symposium



# Victim impact statement



- picture from video presented at symposium





## II

# Tackle the Inequitable Distribution of Power, Money, and Resources

- “...fair representation in decision-making... particularly in relation to its effect on health equity.”
- “...socially inclusive framework for policy-making.”
  - World Health Organization, Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health, 2008: Second overarching principle

# Former Minister of Energy and Infrastructure George Smitherman on local concerns about wind turbine health effects

- “We passed a law, and the law does not create an opportunity for municipalities to resist these projects just because they may have a concern.”

- Resistance to wind farms not an option: Smitherman, Posted By Luke Hendry The Intelligencer, June 2, 2009



# Victim impact statement

- “...the social division...”
- “...the total destruction of small communities...”
- “...interference with the normal political processes...”

■ Personal communication MR Australia



# Victim impact statement

- “...the social dislocation...

our rights as citizens of Australia have been eroded...This community is forever divided and mentally the wounds are incurable.”

- Personal communication AR Australia



# Victim impact statement

- “Who do you go to for help? - the government says its ok - the industry says its ok - society says its ok.

I follow all the rules – they call me a NIMBY.  
What can I do – the developer says it has a license and a right to put the turbines there”

- Personal communication September / October 2010



# Victim impact statement

- “The wind developers get free access to all levels of the Ministry of Environment – when there are discussions about our noise study, we are excluded from the meeting.”

■ Interview with Ontario victim September / October 2010



# Victim impact statement

- “...when people can't sleep, the developer always wins. The Ministry of Environment says they're in compliance, even when they aren't.

It's not about justice – it's about  
“procedures”...”

■ Interview with Ontario victim September / October 2010



# Ontario Ministry of Environment

- “There is currently no scientifically accepted field methodology to measure wind turbine noise to determine compliance or non compliance with a Certificate of Approval limits.”

- Correspondence from Ministry of Environment September 30, 2009  
ENV1283MC2009-4305, [http://windvigilance.com/primer\\_ahe.aspx](http://windvigilance.com/primer_ahe.aspx)





# III

## Measure and Understand the Problem and Assess the Impact of Action

- Monitor / surveillance

- Research

- Action

- World Health Organization, Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health, 2008: Third overarching principle

# Victim impact statement

- “I am a victim of large industrial wind turbines... it is time that legislators and public health officials learn about and are held accountable for the terrible health affects inflicted on nearby residents...”

■ Personal communication GM USA



# Please study me

- “I want everybody to live in my house. Nobody will live in it. I offer to everybody here: Come and live in my house, free.”

- Hansard Reports, proceedings from April 15th, 2009 The Green Energy Act, Bill 150, Standing Committee on General Government, Ontario  
[http://www.ontla.on.ca/web/committee-proceedings/committee\\_transcripts\\_details.do?locale=en&Date=2009-04-15&ParlCommID=8856&BillID=2145&Business=&DocumentID=23801](http://www.ontla.on.ca/web/committee-proceedings/committee_transcripts_details.do?locale=en&Date=2009-04-15&ParlCommID=8856&BillID=2145&Business=&DocumentID=23801)



# Inaction


- “Our public health unit does not have the recourse, resources or expertise to monitor the health effects of turbines...

To stray from this course, by pursuing such avenues, would be highly problematic”

- 15 April 4, 2009 at 6:20 PM Personal communication from local Ontario Public Health Office to victim



# WindVOiCe© survey results

	Annoyance LFN *	Stress **	Sleep disturbance ***	WindVOiCe© reported Symptoms
<b>Behavioural</b>				
sleep disturbance	✓	✓	-	✓
fatigue	✓	✓	✓	✓
memory	✓	✓	✓	✓
performance	✓	✓	✓	✓
concentration problems	✓	✓	✓	✓
<b>Psychiatric</b>				
anxiety conditions	✓	✓	✓	✓
depression	✓	✓	✓	✓

Møller, H., and Lydfold, M. (2002): A questionnaire survey of complaints of infrasonic and low frequency noise. *Jnl Low Freq Noise* \*

Mirowska, M., and Mroz, E. (2000): Effect of low frequency noise at low levels on human health in light of questionnaire investigation \*

World Health Organization, Work Organization & Stress, Stavroula Leka BAMS PhD et al., \*\*

World Health Organization, Night Noise Guidelines for Europe, (2009) \*\*\*

# WindVOiCe© survey results

	Annoyance LFN *	Stress **	Sleep disturbance ***	WindVOiCe© reported symptoms
<b>Medical</b>				
cardiovascular				
respiratory				
gastrointestinal				
musculoskeletal disorders				
weight gain/loss	-	-		
headaches				

Møller, H., and Lydolf, M. (2002): A questionnaire survey of complaints of infrasound and low frequency noise. *Jnl Low Freq Noise* \*

Mirowska, M., and Mroz, E. (2000): Effect of low frequency noise at low levels on human health in light of questionnaire investigation. \*

World Health Organization, *Work Organization & Stress*, Stavroula Leka BAMS PhD et al., \*\*

World Health Organization, *Night Noise Guidelines for Europe*, (2009) \*\*\*

# Value of the individual

- “A society that is concerned with health and health equity acknowledges the existence of all its citizens and the importance of their well-being.”
  - World Health Organization, Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health, 2008

# Effects of low frequency noise

- “The noise ... causes immense suffering to those who are unfortunate to be sensitive to low frequency noise and who plead for recognition of their circumstances.”
  - Geoff Leventhall et al., A Review of Published research on Low Frequency Noise and Its Effects, May 2003



# Pleadings of the unfortunate

## Victim impact statements

- “I begged the Premier to help me, please help me”
- “It’s mental abuse – I will never be the same...I have lost all hope”
- “We wait and wait for help – our hopes are dashed over and over – the problem is never solved”
- “I write letters and keep hoping the next one will get us out of this”

■ Personal interviews September / October 2010



# CanWEA submission

- “...CanWEA submits that the proposed requirement for infrasound or low frequency noise monitoring as a condition of the REA be removed.”
  - CanWEA EBR Positing 010-6516 (Proposed Ministry of the Environment Regulations to Implement the Green Energy and Green Economy Act. 2009) – CanWEA’s Supplemental Submission Dated July 24, 2009, EBR Comment ID 123788. Signed Robert Homung President.



# Victim impact statement

- “...We still have the noise 4 years later and no one has done anything...No one came. No one rang, no one wrote. I am still waiting for someone to take some interest. They don't know the impact on our life. ... They don't care...”

■ Personal communication LC – United Kingdom



# Social Justice = Health Revisited

- “Social justice is a matter of life and death. It affects the way people live, their consequent chance of illness, and their risk of premature death.”
  - World Health Organization, Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health, 2008

# Is this social justice?

- “Our home is surrounded.... Due to adverse health effects, we found it necessary to vacate our home.”

■ Personal communication TW and son, Ontario



# Is this social justice?

- “We have lost our health, our home, and no one cares...I had to quit my job, a job I dearly loved”

■ Personal interview September / October 2010





# Is this social justice?

- “I had to abandon my home...because of the terrible symptoms. My house is worth nothing...”

■ Personal communication October 2010 Italy



# Is this social justice?

- “I am a teacher, we are driven from our home of 31 years and I have to teach the social marketing about wind turbines to our youth”

■ Personal interview September / October 2010



# Is this social justice?

- “I am forced to sit back and say nothing as my own teachers teaches my classmates and peers that wind energy is flawless...I am forced to live away from home with my grandmother.

...I can never go home.”

- Personal communication September / October 2010

