

ADVERSE IMPACTS FROM WIND TURBINES IN WAUBRA, AUSTRALIA AND SURROUNDING AREA

We have spent almost one year attempting to understand the complexities of wind energy. We have researched the potential benefits and acknowledged deficiencies of industrial wind turbines. We have tried to educate citizens on Cape Cod and in Massachusetts about industrial wind energy. We have tried to foster public debate, through the formation of a Cape-wide group that has sponsored public presentations by relevant experts and has disseminated technical engineering reports, clinical medical research on adverse impacts, detailed acoustic studies of the special characteristics of wind turbine noise, relevant environmental information and numerous news reports and first-person testimonials from around the world to local, state and regional governments and agencies and to the general public.

Now after traveling to Australia and meeting with and interviewing dozens of people who have been profoundly adversely impacted by industrial wind turbines or are fighting the construction of wind turbines in their communities, we now understand with certainty that the very dramatic and real problems with wind energy are much, much worse than we had previously imagined.

What follows is a preliminary summary of our visit in Australia.

We spent the afternoon of 1/9/11 with the leaders of a country-wide organization called the Australian Landscape Guardians. They explained what is happening throughout Australia concerning the siting of industrial wind turbines. They told us that the government of Victoria, Australia is currently formulating a new policy which requires a minimum setback for all new wind turbine projects of 2 km (1.24 miles). They also informed us that the new policy includes the provision that no wind turbines can be built in National Parks, State Parks, or certain areas determined as scenic in character.

Later in the day we met Sarah Laurie, MD, Medical Director of the Waubra Foundation, who arranged this amazing journey for us. We spent time with her and she explained her work to us, which is to gather information from affected residents in order to encourage researchers to conduct appropriate independent research, to lobby for funding for such research, and to provide information and support to people who have been adversely impacted by the turbines.

That night we had dinner with a group of residents in a rural area that have organized to fight several large wind developments in their communities. They requested that we describe what has been happening on Cape Cod and in MA.

The following day, on 1/10/11, we spent conducting interviews with some of the nicest and hardest working people we have ever met. Their stories are so incredible, emotional, and, ultimately so profound that we wanted to share our initial observations with you. We interviewed 17 people who have been adversely impacted from a health standpoint.

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We also interviewed a very courageous journalist who tells the stories of those in the Waubra area who are adversely impacted by industrial wind turbines.

ONGOING RESEARCH CONCERNING ADVERSE HEALTH IMPACTS TO THOSE LIVING TOO CLOSE TO INDUSTRIAL WIND TURBINES

- Sarah Laurie, MD has been meeting with the victims of the Waubra wind power plant to gather information about their symptoms and illnesses, and to help provide information about the current knowledge of the health effects of wind turbines on human health to their General Practitioners and other doctors involved in their care. As part of her work, she has requested the victims keep track of their blood pressures throughout each day to investigate the impact of the turbines on their blood pressure. Her preliminary findings indicate that a number of the victims are experiencing dangerously elevated blood pressure since the turbines became operational, which go back down to normal levels when they are away from the turbines. Victims are tracking their blood pressure readings, and there are plans to do comprehensive investigations using 24-hour Holter Monitors, as this is the best way to measure what is going on. Some of the victims have been placed on blood pressure medications. Dr. Laurie is concerned because elevated blood pressure in the morning is an indicator of increased risk for heart attack and stroke. She has learned of several people who had normal blood pressure readings prior to the wind turbines being constructed who have now developed high blood pressure, or have had heart attacks and strokes since the turbines commenced operating. There has been one death so far due to stroke. She wants these incidents further investigated, to see if there is any connection with turbine operation when these people developed symptoms.
- Dr. Laurie also feels that it is important to investigate the impact of long-term exposure to industrial wind turbines and health. Some who have lived in the Waubra area, and are now industrial wind turbine development refugees due to adverse health impacts, have found that some of their symptoms have not gone away after permanently leaving their homes near the turbines. These people report that initially, during the first months of living near the wind turbines, their physical symptoms went away when they left the Waubra area for even a matter of hours. Several people we spoke with are concerned their health problems may be permanent. Again, these people had no problems prior to the wind turbine development.
- Some of the people living within 5 km of the wind turbines at Waubra experience what was called upper lip quiver. Two of the people we interviewed talked about this. When the wind turbine infrasound is intense, people experience a sensation in their upper lip that they can not control. Their upper lip vibrates and this twitching vibration can be seen by others. The sensation is disturbing to the people experiencing this not only because the vibration is extremely uncomfortable, but the loss of control of their own body is alarming. Dr. Laurie is gathering data on the

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incidence of this symptom, as it appears to be highly specific with wind turbine operation. It has been reported in residents who live up to 10km adjacent to two wind developments elsewhere in Australia. She is concerned that if these symptoms are being noted at this distance, that there may be other effects on people such as elevated blood pressures, which may go undiagnosed.

- Several people living within 5 km of the wind turbines have experienced a sensation where they have woken up at night with a feeling that their heart was about to leap out of their body. Their pulse was alarmingly high. This has happened on several occasions for each of the people we spoke with who described this symptom. Dr. Laurie is gathering data that residents are noting in their personal health journals. She is also working to encourage further research in an attempt to find out more about this phenomena.
- A local Sleep Physician has agreed to carry out further research, as he is concerned about the effect the turbines are having on the health of his patients, in particular their disrupted sleep. Sleep deprivation is a major issue for the people we interviewed.

1. SETTING THE STAGE:

- Waubra and surrounding small towns are agricultural areas in a truly beautiful landscape of rolling hills and valleys. Many of the residents have lived in the area for many generations. Farming operations include sheep, cattle and various crops. Farming is a major source of revenue in the Waubra area. The farmers we spoke with are very concerned about the environment. Many of them use organic farming methods and all practice energy conservation. Waubra is located approximately 100 km from Melbourne.
- The people interviewed described their community life as very positive prior to the Waubra industrial wind turbine power plant development called a 'wind farm'. (They know farming and stated that the 128 wind turbines have nothing to do with farming. They call this development a wind power plant.) Parents stated the schools were very good and felt their children received good educations. Family life is very important to the people we interviewed.
- Many of the victims we interviewed were older parents. Many of their grown children who work on the farms planned to take over the family farms as their parents retired.
- Much of south eastern Australia, including Waubra, has experienced 15 consecutive years of drought. This is very important as it had a significant impact on the development of the wind power plant.

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- The Australian government, like the U.S., has placed a major emphasis on developing and deploying renewable sources of energy, especially wind energy. As in the U.S., Australia has set a target of 20% of its energy to come from renewal sources by 2020. The government provides generous subsidies and tax breaks to wind energy developers.
- The initial wind energy developer, Wind Power, began the process in 2003/2004. An application for a Planning Permit was submitted in 2005. The people we interviewed stated that the initial presentations were long on lofty claims and very short on facts. Some of the people we interviewed attended informational meetings and stated that the presenters claimed there were no problems with noise. The salesmen stated that the turbines sounded like leaves blowing in the wind or a stream – similar to claims we have heard in the United States that wind turbine noise is “no louder than a babbling brook, a refrigerator or a quiet conversation.”
- Here is where the prolonged drought played an important role. Many farmers, especially smaller land holders, had suffered financially and they felt the wind turbine lease payments represented a life-line to help them through the difficult drought. So many signed up. **IT IS IMPORTANT TO NOTE:** some of the residents that did not sign up had reservations about the wind ‘farm’, but they did not raise their concerns because they were told by the salesmen that there were no problems and they did not want to interfere with their neighbors earning much-needed money from leasing their land to the wind energy developers. Their considerations for their neighbors would take a tragic turn following the construction of the wind energy power plant.
- Construction of the Waubra wind energy power plant occurred in stages and by June 2009 was fully operational. There are 128 industrial wind turbines covering an area of approximately 173 square kilometres.
- Many of the residents we interviewed, and presumably the people who leased their land, were shocked by the size and placement of the turbines following the construction. We were told that many residents felt lied to due to the actual size and placement of the wind turbines.

2. WHAT WE OBSERVED:

- All of the residents we interviewed have suffered a profound impact on their health, their relationships with family and their community, their confidence in elected officials, their financial condition and property value, and their life plans and future. They all feel betrayed and they are extremely angry. Here are the reasons why:
- ***All of the people we interviewed are sick -- very PHYSICALLY ILL, as confirmed by a medical doctor, and in many cases by their family physicians.***

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Their symptoms track with the symptoms we have heard experienced by the victims in Falmouth, MA; Vinalhaven, Maine; and many other communities globally. It was abundantly clear from these interviews, which we videotaped, that the suffering of the people has been severe. They report severe headaches, eye pain, difficulty sleeping, emotional distress, racing hearts, dangerously high blood pressure, ringing in their ears, panic attacks, feelings of hopelessness, inability to concentrate, and inability to find simple words when speaking. Children are experiencing the same symptoms as their parents. The parents we interviewed reported that their children's performance in school has radically declined since the wind plant began operation. Many we interviewed are under the care of physicians and take medication that they did not take prior to the wind turbine development. ALL THESE SYMPTOMS DEVELOPED AFTER THE TURBINES BEGAN TO OPERATE. It bears noting that the residents we interviewed, many of whom are farmers, were all healthy and hearty people who had spent their entire lives working outdoors. They are proud, and solid citizens. THEY ARE NOT COMPLAINERS...JUST THE OPPOSITE. Nonetheless, they can not ignore, nor overcome, their persistent symptoms that began to affect them, to threaten their health, and to disrupt their lives, since the arrival of the wind plant to their community.

- **REASON FOR A RED CODE ALERT: Many of the people we interviewed lived from 3 km to 10 km from the turbines. A two km (1.24 mile) setback at this wind power plant location would not have helped most of these people.**
- We were told by several that it is worse inside their home than outside because their window jambs rattle and parts of their homes vibrate.
- All the people we interviewed used similar descriptions when explaining their symptoms. They all describe feeling 'pressure' on their chest, their heart, their head, their ears and their eyes. Some have already declared themselves to be 'INDUSTRIAL REFUGEES' and have abandoned their beautiful and long-cherished homes. Others are considering leaving. Still others are determined not to leave even though their health has declined dramatically. The despair of the residents is evident as they describe this most difficult decision of whether to stay, or to abandon their homes.
- We interviewed one resident who said that she is in such pain at times she thinks that putting a bullet in her head would bring more relief than the pain she is experiencing.
- Some of the people we interviewed told us they believe that many of their neighbors who signed the leases and are hosting the turbines are suffering physical adverse health symptoms as much as they are. They stated that the land owners who signed the leases are prohibited from talking about their health problems because of the gag-clauses in the leases.

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- Those who have left their homes all report that their health problems have become less severe when they are away from the wind power plant. Most state that when they leave the Waubra area they feel better and that their blood pressure readings return to normal levels. But, it is very important to note, that some of the symptoms for some of the people have not gone away. Some are concerned their health problems may be permanent. The physician we talked with shares their concern.

3. SENSE OF COMMUNITY:

- THIS IS A TRAGEDY OF MONUMENTAL PROPORTION. According to many residents we interviewed, the Waubra area community, in their view, has disintegrated. Five generations of citizens, many life-long friends, have become adversaries. As we listened to the residents describe what has happened, we were very sad to see the emotional toll it is taking on these fine people who highly value the sense of community. One story told was that the local pub recently closed because people no longer frequented the pub because they feared who they might meet. We heard stories of violence, including an incident when one victim publicly stated his health problems and neighbors (former life-long friends) who leased land for the turbines sought revenge. Some residents told us that they now drive to near-by towns to go to the grocery store or the Post Office because they are verbally attacked in Waubra. One person stated it is their belief it will likely take a generation -- after the turbines are removed -- before the social healing can begin for their community.

4. IMPACT ON ANIMALS:

- The health of animals is naturally very important to farmers. Many of the residents told us that the wind turbines had an adverse impact on their animals.
- One farmer described how he had to 'put down' a blind sheep that had managed to take care of herself until the turbines began operation. After the turbines started, the sheep walked in circles and kept injuring herself walking into objects, so the farmer euthanized her.
- Others stated their dogs who are normally quite calm 'act up' when the wind turbines are loud from an audible standpoint and also when the infrasound is bad (note that dogs and other animals have a wider range of audible hearing than humans).
- When the wind farm commenced operation the usually very plentiful bats disappeared. Recently a few have been sighted. Overall there has been a decrease in the bat population.

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5. IMPACT ON VIEW AND AESTHETICS OF RURAL ENVIRONMENT:

- The people we interviewed had all consciously chosen to live in the rural countryside. As previously noted, many we interviewed have maintained family farms in the area for multiple generations. Virtually all of them were heart sick at the wholesale transformation of their environment and what they characterized as the destruction of their land. Like many on Cape Cod who love the beauty of the sea, the dunes, the vistas, and the rural character of the Cape, the people we interviewed felt a profound sadness and loss regarding the industrialization of their natural and cultural heritage and community.
- One person we interviewed stated she could see 64 turbines from her land. At night the once tranquil vista now looks like an amusement park with dozens of red blinking aviation warning lights atop the turbines.
- Many of the people living in the Waubra area have powerful telescopes that they once used to enjoy the vast night sky in Australia. This was a popular hobby that used to bring great pleasure to many here, but the people in the region can no longer use their telescopes because the night sky is filled with pulsing red lights from the wind turbines.
- One resident gave us a written diary containing a day-by-day account of the noise emanating from the turbines and her observations of the adverse effects upon her health. She also wrote about the beautiful sunsets and sunrises that were spoiled by the flashing red lights – a record of observations which illustrates her love of her natural environment and her sense of permanent loss.
- One of the industrial refugees said that everywhere she looked there was movement. She couldn't stand it physically. She has motion sickness and it made her sick to her stomach and dizzy when she looked out of her windows. She reported that she found it unbearable to go outdoors and work in her garden, one of her favorite past times. In the Waubra area, every person we met had a beautiful flower garden as well as vegetable garden. They all took great pride in their garden.
- The Waubra area once was a rural, peaceful, serene location and it was evident to us from the testimonials we heard, that the hearts and souls of the residents we interviewed were tied to the land. They repeatedly described their rural location as being ruined, and turned from a peaceful countryside into an industrial zone.
- As in many similar locations around the world, including Falmouth, MA and Vinalhaven, Maine, most of the people we spoke with had supported the wind turbine development until it became operational. They now described how sad they were that their beautiful landscape is marred with the wind turbines. Some told us

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that this is not a place people want to come visit since its former beauty, and its sense of peace and tranquility, are now gone.

6. IMPACT ON LIFE GOALS:

- What can one say? The lives of many residents that we interviewed have been completely upended, even shattered, as is evident from their videotaped accounts. Like most people, they had a plan for their future. Many had taken for granted that they would continue to work their land and pass the family farm to their children.
- One resident purchased a 300 acre farm in the Waubra area to grow organic crops and livestock three years ago, about one year before the turbines began operation. Now he can not work on areas of his farm because the pain he experiences is too severe.
- Another family owns and farms a 4,000 acre property. When the wind developer offered them lease payments for eight turbines and extra income for transmission lines, they turned the offer down because they don't need or want any outside interests in their farm. They have now abandoned their beautiful home. During our videotaped interview, the mother of young children became extremely emotional when she described the decision to leave their family home and how that decision impacted her children.

7. THE WIND ENERGY COMPANY RESPONDING TO COMPLAINTS

- According to the residents, it would appear that the general response to a complaint by the Company is to (now, but not until continually requested) provide an Incident Reference Number. Frequently people are told 'we will look into it' and 'we will pass it to the relevant people'. Nothing happens. No investigation. When people first began to complain they did not ask for a Reference number and they felt that more than likely their complaints had not been registered.
- One resident who lives over 2 km from the nearest turbine, and who has made numerous complaints, was told that no one was responding to his complaints because he lived "too far" from the wind turbines.

8. PROPERTY VALUES:

- PLEASE KNOW THAT ANYONE WHO STATES THAT PROPERTY VALUES ARE NOT IMPACTED BY WIND TURBINE DEVELOPMENT IS NOT TELLING THE TRUTH. What has happened in the 18 months since the turbines began operation illustrates an impact on property values. We were told the following: Seven property owners have had properties purchased, so there are at least 7 properties, but maybe up to 10 properties that have been purchased. 4 property owners were involved pre-construction of the wind farm. 3 property owners have had properties

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purchased after the wind farm commenced operation. The two most recent properties to be purchased were because of noise. We were told by residents still living in Waubra that one of the property owners was bought out because of visual amenity even though she had been very outspoken in the media about her health problems. (We were told that the wind developer does not purchase properties based on health issues.)

- Further, some residents we spoke with report that there are more near-by properties coming on the market all the time. Some said there are not interested buyers in their area. One resident stated that she knows of a property that had more than 100 interested people contact the real estate agent, but when they found out the property was near the Waubra Wind Farm, not one prospective buyer has visited the property. We have heard from property owners in the Waubra area that real estate agents have said, if you can see the turbines it is very hard to sell the property.
- Many of the people we spoke with are certain that property value has dramatically declined, and some feel their properties can not be sold at any price.
- One person stated that the wind development has cost him \$1,000,000 dollars in lost property value and costs incurred since the wind power plant has come to his town.

Written by:
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Preston Ribnick is President and Lilli-Ann Green is CEO of a company in the United States, Professional Resource Group (PRG) which was established in 1979. The company's core competencies include quality improvement, health care consulting and market research. Both Preston and Lilli speak around the United States to health care professionals on various topic related to quality improvement. PRG also develops educational programs for the health care industry. Many PRG programs are widely distributed in the U.S. and the audiences include physicians and nurses. PRG has worked with over 160,000 health care professionals throughout the United States, Canada and Puerto Rico since 1979. The main focus of PRG educational programs is quality improvement. Many of the programs center around various disease states.

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