



WHO 2000 *Guidelines:* *Community Noise*

- When low frequency components are present, noise measures based on dBA measurements are inappropriate - dBC is a better measure when health effects are to be minimized
- It should be noted that a large proportion of low frequency components may increase considerably the adverse effects on health and the evidence on low frequency noise is sufficiently strong to warrant immediate concern

Berglund et al., 2000

EXHIBIT 3

BOULEVARD PLANNING GROUP

P.O. BOX 1272, BOULEVARD, CA 91905

Carl Stiehl, DPLU Project Manager

March 11, 2010

5201 Ruffin Road, Ste B

San Diego, CA 92123-2960

via: Carl.Stiehl@sdcounty.ca.gov

RE: Solar Wind Energy Zoning Ordinance Amendment (POD 09-006)

Dear Mr. Stiehl,

These comments are submitted on behalf of the Boulevard Planning Group, as a result of a unanimous vote taken at our regular meeting held on March 4, 2010. Our rural low-income community is one of the most impacted by the current all-out assault represented by major wind energy developers who are jockeying to gain a foothold and reap the unwarranted and unsustainable tax and rate payer funded subsidies, tax credits, tax breaks, accelerated depreciations, and upfront grants--at the expense of our community and those who visit this ruggedly beautiful area. Residents and visitors alike are drawn here for the currently appealing wide open spaces, scenic vistas, varied recreation resources, and the quiet ambiance which allows one to hear nature's varied voices without industrial scale noise, visual, and light intrusion / pollution

One company at work in our community is Iberdrola Renewables which recently announced a profit in excess of \$1 billion. They have already collected over \$500 million in 2009 tax payer funded ARRA grants and expect to rake in another \$300 million or more in 2010 ARRA grants. They are in line to get an estimated \$13 million grant for their 200 MW Tule Wind project in McCain Valley, our main recreation area. We see their heavy hand, and others, at work with significantly reduced setbacks / protections as proposed in this zoning ordinance amendment.

The County must resist the siren's call and false claims and promises of "Big Wind" including claims that there are no environmental impacts and that wind is a low cost alternative. The following statement, taken from the linked editorial, raises important issues / questions that should be asked and answered:
<http://www.windaction.org/faqs/26050>

"Before you accept at face value that wind is a low-cost option for electricity, Windaction.org advises you to understand how electricity is priced in your region. When a wind project comes to town, ask the wind developer and your electric utility: What is the long-term price the utility is committed to purchasing the wind power? and, What is the wholesale price of electricity in your region? "

A full EIR should be undertaken for these zoning ordinance amendments due to the significant and cumulative impacts these reduced protections represent. The reduced protections will also set a bad precedent for any projects proposed on federal, tribal, and /or state lands that have the potential to impact our human and natural communities. Often times, private and conserved properties abut these proposed sites which are outside of County jurisdiction, as is the case with the Tule Wind proposal in McCain Valley. Overall, the impacts of these proposed amendments demand a full CEQA review .

The reduced setbacks will allow for increased density of turbine projects and increased profits for Iberdrola, Invenergy, Sempra, SDG&E, Hamann Companies, and others. For the impacted rural communities, the reduced setback requirements represent the following increased cumulative threats / negative impacts :

- Public health and safety
- Noise, infrasound and low sound vibration
- Fire threat from increased ignition sources
- Fire fighting interference
- Reduced property values
- Increased insurance rates
- Environment, biology, habitat degradation and fragmentation
- Visual pollution, landscape altering destruction
- Transformation from rural community character to industrial zone
- Economic impacts from reduced ecological and recreation based tourism, and more.

Distributed Generation should outrank and take precedence over large scale rural projects: Using the carrot and stick approach, the County should adopt a policy, if one does not already exist, that ranks renewable energy projects in a manner that supports, gives preference to, and provides incentives to, distributed generation projects in the already built environment with existing infrastructure. Any industrial scale renewable energy projects proposed for undisturbed and/or sensitive lands in rural areas, with limited emergency services and infrastructure, and that require expensive, extensive, and destructive new transmission lines through fire prone areas, should be ranked dead last and strongly discouraged by the County.

Distributed generation alternatives to large scale rural projects: The California Renewable Energy Transmission Initiative (RETI) has determined there is up to 27,000 MW of potential small-scale distributed generation in the state. Other studies, including the San Diego Smart Energy 2020 Plan, by Bill Powers, state that San Diego County has an estimated 5,000 MW of potential photovoltaic capacity on existing structures and already disturbed lands. Developing distributed renewable energy generation facilities at and close to the point of use

would have fewer environmental impacts and be far less expensive than building large scale projects in rural areas that require new transmission lines and substations that are prone to disruption by wildfire.

The assigned PUC Administrative Law Judge's proposed decision on the Sunrise Powerlink project recommended denial of the project based on lack of need and the viable and less expensive, less environmentally destructive, and more reliable distributed generation alternatives. CPUC Commission John Bohn has also acknowledged that, "...unlike other generation sources, (distributed generation) projects can get built quickly and without the need for expensive new transmission lines. And...these projects are extremely benign from environmental standpoint, with neither land use, or air emission impacts". Moreover, distributed generation facilities pose significantly lower risk of shut-offs and damage from wildfires and thus would improve reliability. Here is a link to short video (3-1-10) of an on-site rooftop cylindrical solar panel project, that absorbs light from any angle, at a new Jersey Costco store that won an award for renewable excellence for Distributed and Onsite energy. It was installed by Solar Power Inc., a San Diego Company: <http://link.brightcove.com/services/player/bcpid6801356001?bctid=69203632001>

For the record, we hereby incorporate by reference our Boulevard Planning Group scoping comments on the joint DEIR/EIS review for the Tule Wind, ECO Substation and Energia Sierra Juarez projects submitted to the PUC and BLM on February 15, 2010. A copy is attached for your convenience.

Also, please see our draft Boulevard Community Plan, under review as part of the General Plan Update, for more details on our support of and preference for low-impact residential scale wind and PV solar projects.

Section 5: 6123 Meteorological testing facility:

c: Notification should also include the impacted Community Planning Group. 300 feet is not a wide enough notification zone for adjacent properties. Any properties within site of the MET tower, that are placed on the market, will be required to fully disclose the MET tower permit and/or installation, and the fact that it represents the potential for a future industrial wind energy project, thereby impacting their property values. **Notification should also go to the same impacted property owners and Planning Group when existing permit extensions are applied for and under consideration**

d. Setbacks should be more than the height of the MET tower from non-participating properties and existing occupied buildings. Guy wires may create a whining, humming noise during certain wind events that could create a nuisance. MET towers also represent a potential wind energy project which must be disclosed during property sales, which could lead to lost sales or much reduced values.

e. There is no need to allow the installation of multiple MET towers within 500 feet of each other. A separation of several thousand feet, or several miles is more realistic.

f. All access roads need to be proven to have a deeded legal easement rights prior to any approvals or permits. Most rural roads are private and are not available for legal access without a deeded easement grant.

We strongly oppose the allowance of MET towers without an Administrative Permit as proposed with compliance of subsections b,d,e,f,gh,j and k of this section. Neighbors and planning groups need to be notified and allowed to provide input on any approval process.

Section 9: 6951 Wind Turbine System (small)

This section should also address vertical axis wind turbines, some of which are showing promise such as the Helix Wind design which survived the December 7, 2009 wind storm that damaged all 25 turbines at the Kumeyaay wind facility, and Mariah Power's Windspire. Both turbines are installed in the Boulevard, Jacumba area. The Windspire was very quiet when recently observed, and unobtrusive at only 30 feet tall.

a.1. Some smaller backyard turbines can be very noisy due to faster blade rotational speeds. They tend to be close to residences, and adjacent property lines, making their noise more constant. Small wind turbines are also subject to malfunction, blade throw, and other issues. The proposed setback of just the turbine height alone may not be adequate to protect adjacent, non-participating residences and sensitive receptors

a. 2. Fencing of small turbines seems excessive and adds an extra cost burden for non-commercial use.

a.3. Noise levels at the nearest non-participating residence should also be required--not just at the property line.

Large Wind Turbine System

b. 5 acre lots are too small for large turbines and would not allow for adequate setbacks for impacts to non-participating property owners , including noise, vibrations, shadow flicker, blade throw, tower collapse and fire. **Secondary fire access should be required with legal easements verified. Access roads should be required to be brought up to County road standards and paved. Enforceable road maintenance agreements and funding should be required prior to any project approvals.**

b. 1. i :Setbacks: We strongly oppose the significant reduction in setback requirements from public and private road easements and open space easements from the current 4 times the height of the turbine down to just the height of the turbine tower due to negative public health and safety impacts. The extra 150 feet or so of blade length needs to be added for the total height of the turbine. Average industrial wind turbines now stand an average of around 500 feet tall. Documented blade throw has been recorded at 1,650' to 2,200'. See Bethany Wind Turbine Study: <http://townofbethany.com/other%20pdf%20files/Wind%20Turbine%20Committee%20Report.pdf>. The current 4 times setback is closer the new recommendations of 1-2 miles to prevent the most significant public health and safety impacts that we strongly recommend and support

Following a catastrophic failure of two Vestas wind turbines on Feb 22 and 23, 2008, the Danish energy agency requested an investigation into the events. A report was produced by engineers at Risø DTU. A video of one of the failures can be seen here: <http://www.windaction.org/videos/14294> . ***It is important to note that the debris from the first turbine failure which occurred on February 22 spread as far as 700 meters (2200 feet) away.*** Risø DTU is formerly a government research institution under the Danish Ministry of Science, Technology and Innovation.

Combined recommendations from the Danish report:

- It is recommended that the Consulting Committee for the Secretariat looks at these events soon, and provides guidelines to ensure that the certification of models and projects more precisely shows the required maintenance.
- It is further recommended that requirements for ongoing service and maintenance of wind turbines are very soon considered by the Consulting Committee for the Secretariat. Together with the industry, they should work to ensure that all wind turbines receive the necessary qualified service and maintenance.

Here is a link to the final investigative report: <http://www.windaction.org/documents/21858>

Here is a link to a short 2007 GE Energy document, "Extreme wind speed: risk and mitigation" <http://www.windaction.org/documents/13914>. It explains the risk in the event of extreme wind conditions including hurricane or tornado and any mitigation. **Note, the document acknowledges the risk of blade throws and tower collapse.** Also note that the area targeted for wind energy in East County is subject to extreme wind events, including hurricane and gale force winds and large twisting dust devils which can be hundreds of feet wide and extend several thousand feet high. Local barns and massive oak trees have been damaged by these twisting wind events. Hurricane Kathleen, in the late 70's took out I-8 and the railroad in the Mountain Springs /Ocotillo area. Boulevard was hit hard with torrential rains and high winds. We also point to the catastrophic failure at the Kumeyaay Wind facility during the December 7, 2009 high wind/ storm event. The facility was off-line for almost three months.

b.1.ii: Again, we strongly oppose the significant reduction in setback requirements from property lines, existing residences or buildings occupied by civic use types, from the current 8 times the wind turbine system height down to just 3 times the turbine system height, for the same reasons noted in our comment above at b.1.i. We also strongly oppose a minimum setback of 600 feet as grossly inadequate to protect public health and safety and sensitive receptors.

b.1.iii: We support additional setbacks, beyond the new called for setbacks of 1-2 miles, for noise and vibration compliance and for the protection of public health and safety. This section needs to take into account the potential for turbine malfunction including fire ignition, tower collapse and blade throw which can reach several thousand feet beyond the permitted turbine itself. Some of the turbine components weigh several tons. Residents beyond several miles complain of turbine noise impacts.

2. Fencing around individual turbines It is not necessary and we oppose it. It just adds to the cumulative significant visual impacts and further reduces / restricts movement of wildlife through the area.

3. Signs: Each turbine should have its own physical street address to aide in emergency response, especially in rugged rural areas far from any emergency response stations. Fires and accidents could occur at any time during construction, operation and maintenance.

4. Noise: The County Noise Abatement and Control Requirements should address the infrasonic low sound vibrations associated with the operation of industrial wind turbines. Preliminary ambient sound and vibration studies and ongoing monitoring should be required at adjacent sensitive receptor locations, including residential, recreation, open space, conserved lands, and critical wildlife habitats and corridors. These studies should be conducted by a third party that is not associated with the applicant. Again, we recommend a minimum 1-2 mile radius for these studies.

6. Visual , 7. Turbine Description, 8 Non-Operational Turbines, 9. Removal Surety: We support Section 6, 7, 8 & 9.

10. Existing Administrative Permits for Wind Turbines: Why is this here? Are there any existing administrative permits for wind turbine projects that were granted pursuant to Section 7060 prior to January 1, 1986. If so, wouldn't they be invalidated for lack of action and significant changes since the permit was issued?

6652 Solar Energy System:

b.1. Offsite PV Use: All adjacent property owners and the impacted community planning group should be noticed in a timely manner regarding any and all Administrative Permit applications for off-site solar projects including those less than 10 acres, especially in rural areas where the commercial and industrial zones may be limited and close to rural villages. New transmission infrastructure may also be needed in rural areas that could result in significant and cumulative impacts.

We support the MUP requirements for all other forms of solar energy production, especially those that require copious amounts of water and new infrastructure.

b.2& 3: We support the requirement for Major Use Permits for PV and other solar power projects on 10 acres or more, however, increased set-backs may be needed from non-participating properties, existing residences, conserved lands and other sensitive receptors. The reference to projects on more than 10 acres needs to be clarified as there appears to be confusion on the part of some property owners who reside on more than 10 acres and are considering a project for on-site use with the potential to sell excess energy back to the grid. Would the size of their property alone require a MUP? We do not believe that is the intent of the County.

NOTICE OF MITIGATED NEGATIVE DECLARATION (MND) FOR POD 09-006

We strongly object to this MND, based on the significant and cumulative impacts these changes represent, and formally request a full EIR for the Solar Wind Energy Zoning Ordinance Amendment (POD 09-006)

We object to the proposed MND due to the multiple significant and cumulative impacts that these reductions in setback requirements represent to our natural and visual resources, public health and safety, rural community character, property values, our tourism and recreation based economy and more. It is our strong position that a full Environmental Impact Report is needed to address the whole of the project and all of the impacts these significant changes and full compliance with CEQA. These changes also represent the potential for increased numbers of industrial turbines and increased density within those turbine facilities, thereby increasing the risk to resources, public health and safety, adjacent properties and our rural and natural communities in general. There will also be negative economic impacts through reduced property values and increased rates and /or cancellations for fire insurance.

CEQA Initial Study- environmental check list:

8. Description of project: We strongly object to the statement that the proposed ordinance amendments will "improve and enhance the public welfare and safety...". It is our strong position that the proposed amendments represent just the opposite. They are a huge step back from the previous requirements (*reducing setbacks from a previous 4-8 times the height of the turbine system down to 1-3 times*) and will result in significant and cumulative negative impacts to public health, welfare, and safety, and much more. The significantly reduced setbacks will result in an increased health and safety threat from malfunctioning turbines to adjacent non-participating properties, including residences, recreation areas, trails, conserved wild lands, and more. Industrial wind facilities require significant amounts of back up generation which is usually gas-fired power that has need to be kept available on standby.

9. Surrounding land uses: Historic Route 80 was left out of the list of main roads that serve the County. Views from Historic Route 80, along with a sense of history, will be most impacted due to the targeted wind resource

areas in East County. Historic Route 80 is promoted to tourists through the East County Visitors Bureau. It is a favorite route for car clubs, motorcycle, and bicycle groups.

Determination that a Negative Declaration will be prepared (page 4):

We strongly disagree with the Initial Study and determination to prepare a Negative Declaration. The proposed amendments will have major impacts that demand a full Environmental Impact Statement. Those impacts include but are not limited to the following significant and cumulative impacts:

- Environmental and visual resources
- Biological resources including endangered and sensitive species,
- Increased threat to public health, safety, and welfare
- Negative impacts to already stressed local tourism and recreation based economies
- Environmental Justice issues and undue burdens on rural low-income communities in targeted wind energy zones.
- Increased risk of fire and other damage from malfunctioning industrial wind turbines and related infrastructure. This risk includes increased rates and potential cancellation of fire insurance.
- Increased interference with fire fighting and aerial law enforcement operations
- Interference with radar weather forecasting and law enforcement communications resulting from turbulence generated by multiple wind energy projects within the same general area.
- Increased road damage and required maintenance from multiple projects requiring heavy truck traffic on poorly engineered rural roads
- Increased industrialization and fragmentation of areas that have already been scientifically identified as globally rare and significant Mediterranean mosaic with diverse and abundant wildlife with critical binational wildlife corridors.
- Soil erosion and diversion of water to ground and surface water impacting both quality and quantity.

I. AESTHETICS (page 6):

a) We strongly object to the Less than Significant Impact noted. The correct selection would be Potentially Significant based on the significant and cumulative impacts that will occur. The significantly reduced setback requirements (from 4-8 times the turbine height to just 1-3 times the height), as proposed in these amendments, will allow for an increased number of wind turbine projects overall with higher turbine density within the various project footprints.

b) Again, we strongly object to the Less than Significant impact to scenic resources. The impact is Potentially Significant for the same reasons as those noted in I. a) above. We also want to note that the difficulty in mitigating for, or camouflaging, the visual impact from industrial wind turbines which now stand an average of 500' tall. For example, the existing Kumeyaay Wind turbines are 325' tall and stand starkly sky lined on a highly visible ridgeline which can be seen for miles and miles around. They can even be seen from the western portion

of Imperial Valley when the sun glints off rotating blades. Their blinking red night lights and flashing bright white strobe lights are also highly visible where only dark skies previously existed. **The proposed zoning ordinance amendments will serve to usher in the transformation of our scenic rural landscapes and vistas into 50-story tall whirling, blinking, strobe light flashing industrial zones with all the related infrastructure, damage, scarring and fragmentation--and the cumulative significant impacts that transformation represents.**

c) & d) Less than Significant should be changed to Potentially Significant Impact for degrading the existing visual character or quality of site and surrounding areas and creating new source of light or glare. See comments I a) and I b) above.

II AGRICULTURE RESOURCES (page 10-12):

a) Converting farmland impacts could be potentially significant based on cumulative and significant impacts from multiple wind and/or solar projects on or adjacent to farmland, including the related necessary infrastructure. For example, multiple proposed wind and solar projects are connected to the Sunrise Powerlink and ECO Substation projects. Along with the existing Southwest Powerlink, there will be three major power lines and easements impacting the prime farmland of the Jacumba Valley Ranch. Reduced setback requirements will result in the potential for more wind facilities with higher turbine densities.

c)conversion of farmland to industrial uses: This should be rated as a potentially significant impact instead of Less than Significant. Due to reduced setback requirements, these new industrial uses could result in significant and cumulative impacts from an increased number and density of turbine projects resulting in noise, vibrations, visual, environmental and disrupted access to both participating and non-participating farm and livestock operations. The farming/livestock operations could be abandoned in lieu of increased turbine operations and income, or due to negative impacts as has happened elsewhere, resulting in an increased number of absentee landlords who do not live in the impacted area. Industrial turbines can negatively impact livestock operations and well being.

III AIR QUALITY (PAGE 13-16)

a), b) & c): Please provide the evidence that industrial wind energy "will contribute to lowering polluting emissions from large power plants supplying power to the County of San Diego". It is a well known fact that wind energy is intermittent and requires an almost equal amount of backup generation which is usually natural gas fired power. Along with air quality impacts from the construction and grading activities and tons of cement mixing and decomposition, sources of PM10 will be increased with the increased number of industrial wind facilities, allowed by the proposed reduced setback requirements, and their miles and miles of new access roads (usually unpaved). There will also be significant and cumulative impacts from SP6 emissions from the related new transmission lines and substations required to support these industrial projects in rural neighborhoods.

d) Expose sensitive receptors to substantial pollution concentrations: These proposed changes could be potentially significant to certain rural neighborhoods in targeted wind energy zones, especially in and around Boulevard and the Tecate Divide. Along with the increased truck traffic during construction and constant replacement of giant wind turbine blades and other components, there will be impacts from increased SP6 and other EMF fields along the new transmission corridors and around the new electrical substations that will be required and connected actions to future industrial wind and /or solar projects. Wind turbines also require frequent oil /fluid changes with spills potentially impacting sensitive surface waters and sole source groundwater resources.

IV. BIOLOGICAL RESOURCES (PAGE 17-22)

a) - c): There will be significant and cumulative impacts from other industrial wind / solar / transmission projects outside of County jurisdiction on federal, state and tribal lands and/or a combination of those lands such as the Tule Wind project in McCain Valley. The Multiple Species Conservation Plan (MSCP) is mentioned in this MND document. However, East County is the most targeted area for wind energy development and the East County MSCP is still incomplete. There are also concerns that proposed precedent setting changes to the MSCP to allow for mitigation lands to be purchased outside the impacted area will further exacerbate the damage from large scale industrial projects in our area of globally rare and significant Mediterranean Mosaic habitat, with mitigation occurring outside our impacted area.

d) & e) There are Potentially Significant Impacts to wildlife corridors, habitat and lands proposed for conservation: Again, we point you to the linked Las Californias Binational Conservation Initiative and ask that you compare the critical wildlife corridors with the wind energy maps to see the conflict and threat to our abundant and diverse species and intact habitat that will be fragmented by multiple industrial wind energy and transmission projects and proposed corridors to support even more projects: <http://consbio.org/what-we-do/las-californias-binational-conservation-initiative>

V. CULTURAL RESOURCES (PAGE 23-28)

The most targeted wind energy areas are in East County which was the last stronghold for local tribes. The area is rich in cultural landscapes and resources. The views to and from them are unique to the region and retain significance to living tribal members. Many of these impacts to landscapes, sacred places and traditional cultural properties, in our view, will be incredibly difficult to mitigate.

Those experienced in cultural resource investigation and protection have informed us that many sites identified as individual sites are often part of larger more expanded sites or complexes which is often not recognized until after the fact and the damage is done. This is the case in impacted McCain Valley and much of East County.

The significant and cumulative impacts to these cultural resources should be ranked as Potentially Significant instead of the current Less than Significant.

VI. GEOLOGY AND SOILS (PAGE 29-35)

This section should be ranked as Potentially Significant Impact due to the significant and cumulative impacts that could result from collapsed industrial wind turbines and numerous power lines due to seismic impacts and liquefaction. Without proper setbacks, these structural failures could result in downed powerlines and blocked evacuation routes trapping residents and visitors from fleeing any fires that followed a quake and /or preventing access for emergency services. The San Diego Union Tribune's front page article (2-7-10) reports that industrial wind turbines have never been studied for seismic stabilities. We find this alarming, especially since Tule Wind is proposed for the McCain Valley National Cooperative Land and Wildlife Management Area that is one of the most visited recreational areas in the BLM's Eastern San Diego planning area. Turbines are proposed inside the Lark Canyon OHV Park and campground and near Cottonwood Campground--family oriented use areas. The wind turbine that was subjected to the recent test is only 80 feet tall. At Tule Wind, and other future wind energy projects in our area, the turbines will be close to 500 feet tall which represents a potential for increased structural failure and the crashing down of

multi-ton nacelles, 150 ' long blades, and hundreds of gallons of oil per turbine. See:<http://www.signonsandiego.com/news/2010/feb/07/wind-turbine-getting-seismic-shakedown/>

In February 1892 a 7.8 (or 7.3 depending on which report you read) earthquake occurred with reported ground fissures in McCain Valley and Jewell Valley and rockslides in Mountain Springs, Carrizo and Jewel Valley areas. These areas are targeted for wind energy projects. Here is Link to USGS page: http://earthquake.usgs.gov/earthquakes/states/events/1892_02_24.php . A more detailed report of ground cracking open in McCain Valley, earth appearing sifted several feet deep in Jewel Valley, and rock slides in Mountain Springs and Jewel Valley, is included at page 103 of Memories of the Early Settlements by Ella McCain (1955). Ella reported that:

" My husband and I were living in McCain Valley at the time, he was plowing to plant grain. In the field where he was plowing, the ground cracked open and the crack remained there for several years. At Jewel Valley, then Church Dome, the ground opened and closed again near where my nephew, Johnny Williams was playing. He ran to the house, told his father and uncle, they dug down to see and the earth looked like it had been sifted for several feet down. Rocks rolled from hillsides. I was visiting in Potrero at the time and I have never felt another quake as severe as that one, in Potereo. It kept shaking four or five days, it was said that there were one hundred sixty two shocks in the next two days..."

The California Geological survey shows locations of where the 1892 earthquake was reportedly felt, including McCain Valley. This earthquake has reportedly been associated with a 20 foot displacement on the Laguna Salada fault in western Imperial County near where the Imperial Valley Substation is located, near the proposed SES Stirling Solar Two project site at Plaster City, and near the Sunrise Powerlink route. Go to this link to use the interaction feature for the map: http://redirect.conservation.ca.gov/cgs/rghm/quakes/historical/events/18920224_0720/18920224_0720.html

VII HAZARDS AND HAZARDOUS MATERIALS (PAGE 35-41)

Our research shows that industrial wind turbines use various lubricants / fluids that could be hazardous, especially in the event of a spill or leak as one documented below. The linked document "Castrol: Focus on Wind Turbines", shows diagrams where the various turbine components require lubricants/fluids:

http://www.castrol.com/liveassets/bp_internet/castrol/castrol_advantage/STAGING/local_assets/downloads/w/wind_turbines_brochure_EN.pdf

It is our understanding that several hundred gallons per turbine may need replacement on an average of every 3-6 months. The linked Castrol document claims the use of their specialized lubricants can reduce the need for such frequent maintenance. Regardless, the County needs to address the reality that industrial scale wind energy does involve potentially hazardous substances and wastes, some of which can be hazardous during transport, storage, operation and maintenances, spills and fire events. The County needs to admit and plan for this reality.

This linked document states that each turbine will each have approximately 214 gallons of lubricants and hydraulic fluid in its nacelle or hub at any given time, for a total of 27,820 gallons among all 130 turbines, in

addition to 40,000 gallons of electrical servicing oil stored onsite:
<http://www.masstech.org/offshore/CapeWindFAQs/airwater.html>

The Potentially Significant Impacts from multiple renewable energy projects, on local, state, federal and tribal lands, in the groundwater dependent areas of the County include potential leaks of hazardous fluids used in wind turbines and other hazardous materials used in various solar thermal projects. **Here is an article regarding impacts to a domestic water well from a 491 gallon oil spill from an explosion at a wind turbine farm:**
<http://www.windaction.org/news/13367?theme=print>

Not all projects will fall under County authority or control. Industrial wind turbine facilities, especially those that are adjacent to important roadways and/or transmission lines should be added to the Operational Area Emergency Plan and Multi-jurisdictional Hazard Mitigation Plan.

g) Exposure of people or structures to significant risk of loss injury or death involving wildland fires (page 42):

This section should be marked as Potentially Significant Impact instead of Less than Significant. As noted in our previous comments above, the cumulative and significant threat to our High Fire Danger Zone area from multiple industrial wind turbine projects, with their thousands of gallons of hazardous fluids, related transmission lines, substations, transformers, underground vaults, etc, the potential for catastrophic failures, debris fields, explosions and fires, which could also block roads, is drastically increased. Some of the cumulative projects and impacts may occur in areas outside of County jurisdiction and control.

VIII HYDROLOGY AND WATER QUALITY (page 45-56):

See our comments at VII above.

The following information was taken directly from the American Wind Energy Association's website:

"Small amounts of water are used to clean wind turbine rotor blades in arid climates (where rainfall does not keep the blades clean). The purpose of blade cleaning is to eliminate dust and insect buildup, which otherwise deforms the shape of the airfoil and degrades performance.

Similarly, small amounts of water are used to clean photovoltaic panels.

Water use numbers for these two technologies are as follows:

WATER CONSUMPTION--WIND AND SOLAR

<i>Technology</i>	<i>gallons/kWh</i>	<i>liters/kWh</i>
<i>Wind [1]</i>	<i>0.001</i>	<i>0.004</i>
<i>PV [2]</i>	<i>0.030</i>	<i>0.110</i>

[1] American Wind Energy Association estimate, based on data obtained in personal communication with Brian Roach, Fluidyne Corp., December 13, 1996. Assumes 250-kW turbine operating at .25 capacity factor, with blades washed four times annually.

[2] Meridian Corp., "Energy System Emissions and Materials Requirements," U.S. Department of Energy, Washington, DC. 1989, p. 23.

The AWEA information quoted above is at : <http://www.awea.org/faq/water.html>

Using the posted AWEA information, theoretically, a 1.5 MW turbine operating at 100% capacity factor for a full year will require 13,140 gallons of water per year (1.5mw x 1000kw/mw x 8760 hr x .001 gal). A 100-turbine farm could use 1,314,000 gallons per year. Even if cut to 30-50% energy production rate, over 1/2 million gallons of water per year per turbine farm is a lot of water in an arid groundwater dependent area. Where will the water come from? Who will monitor any groundwater wells? Another question to ask is whether or not any type of detergent or cleaner is used when washing the turbine blades, that could also negatively impact surface and groundwater over time with accumulation and percolation. Cumulative impacts from both water use and potential contamination are potentially significant and must be addressed.

a) Some cumulative projects will be located outside County control and authority. Boulevard watershed is also split by the Tecate Divide with half in the San Diego Regional Water Quality Control Board area and half in the Colorado River Basin Regional Water Quality Control Board.

f) Cumulative projects in the same area could result in Potentially Significant Impacts through blasting, grading for turbine pads and access roads, storm water runoff, oil spills, and more. Not all projects will be subject to County control and authority.

h) Hundreds of hydraulic fluid leaking industrial wind turbines can lead to localized areas of contamination. Nearby springs, seeps and storm runoff could become contaminated and impact downstream wells and wildlife water sources. Go to this link to see photos of leaking turbines at the Kumeyaay Wind facility: <http://www.eastcountymagazine.org/node/2734>

IX LAND USE PLANNING (PAGE 57)

b) Conflicts with multiple projects on state, federal, and/or tribal lands could result in significant land use planning conflicts and cumulative impacts.

XI NOISE (PAGE 59-66)

It is important to recognize that night-time ambient noise levels in rural areas are often 30dB or lower; so, wind farms may become the new and dominant acoustic presence. Wind developers often tell local planning boards and decision makers that the turbines will be inaudible, which is rarely the case. Sometimes they will take the decision makers to the base of existing turbines to show how quiet it is, when the real noise is projected out and away from the turbines towards adjacent properties.

If temperature inversions or other atmospheric stability effects that cause excessive noise occur just 10% of the nights, that means that nearby residents may still find their sleep disturbed 35 nights a year. Denial of these issues by wind energy proponents does not mean the problem does not exist. In Boulevard, off-reservation residents within several miles of the existing Kumeyaay Wind project complain of frequent noise and vibration impacts. The catastrophic failure that shut down the wind farm operations from December 7, 2009 to early March 2010 was their only respite, giving the impacted residents some of their first peaceful night's sleep since the 2005 installation of the turbines.

Here is an excerpt from a January 2010 KPBS story on wind energy in East County: Jerry Yops is a property owner/resident on Ribbonwood Road in Boulevard. His property, and others will lay between the existing 50 MW Kumeyaay wind and the proposed 200 MW Tule Wind project. YOPS: "***There is a noise problem and also there's a – what's called wind turbine syndrome. It's been studied extensively and there's a doctor in New York, Nina Pierpont, that has studied this and it actually exists as wind turbine syndrome. You can hear a noise from – I'm two to three miles away. You can hear noise 24 hours a day. It sounds like a large truck on the freeway that never goes away; it's just constant.***" See the entire story at: <http://www.kpbs.org/news/2010/jan/27/community-opposition-proposed-energy-projects/>

a) Exposure to ongoing noise and infrasonic/low sound vibrations from the operation of one or more industrial wind turbine facilities, is a Potentially Significant Impact that needs to be addressed not ignored. It is our strong concern that the proposed significant reduction in setback requirements, the County Noise Ordinance, and other applicable standards, are all flawed and do not adequately address the very real emerging public health and safety impacts resulting from the operation of industrial wind turbines as documented by a growing body of evidence from around the nation and the world. San Diego County is obligated to provide real and enforceable protection for its citizens and resources from these new sources of industrial noise and infrasonic vibration pollution and the resultant health and environmental impacts.

At page 60 the Ramona Community Plan is referenced. What about the Boulevard Community Plan that specifically addresses wind turbine related noise and other impacts and the necessary setbacks to protect the human and natural communities?

At page 61, we strongly reject the statement that, "It is not believed that noise generated from large wind turbine facility result in impacts to human health". This wind industry promoted position has been thoroughly contradicted by an ever increasing number of reports, videos and other evidence to the contrary. The MND goes on to refer to reports from the British Wind Energy Association and joint AWEA/CanWEA reports that reportedly show no correlation exists between the noise generated from wind turbines and humans living in the vicinity of large turbines. Wind energy associations are the lobbying and PR arm of the "Big Wind" energy companies and those whose living and investments rely on the proliferation and forced intrusion of industrial wind energy turbines into our communities, residential neighborhoods, and wildlands. Therefore, their biased reports should be read with the understanding that those who paid for and had control over the content of the report, represent those who profit off of big wind--often to the tune of billions of dollars per year, most of which comes at the expense of US tax and rate payers. They place profit over community protection.

On March 27, 2009, residents of Mars Hill living within 3600 feet of First Wind's wind energy facility filed a civil complaint in Maine Superior Court seeking relief from the "significant harm" caused by the First Wind and others by the construction and operation of the site--including turbine noise, lights and shadow flicker. The full complaint can be accessed by clicking on this link: <http://www.windaction.org/documents/22650>

An analysis which discredits the American Canadian Wind Energy Association's Wind Turbine Sound and Health Effects can be found at http://www.windvigilance.com/awea_media.aspx . It states that:

"Conclusions of the A/CanWEA Panel Review are not supported by its own contents nor does it have convergent validity with relevant literature. The A/CanWEA Panel Review acknowledges that wind turbine noise may cause annoyance, stress and sleep disturbance and that as a result people may experience adverse physiological and psychological symptoms. It then ignores the serious consequences.

World Health Organization identifies annoyance and sleep disturbance as adverse health effects.

In 2009 the World Health Organization released a peer reviewed summary of research regarding the risks to human health from noise induced sleep disturbance. Some of the adverse health effects documented include fatigue, memory difficulties, concentration problems, mood disorders, cardiovascular, respiratory, renal, gastrointestinal, musculoskeletal disorders, impaired immune system function and a reported increased risk of mortality to name a few.

Health Canada acknowledges the health consequences of stress and considers it a to be a risk factor in a great many diseases, such as heart disease, some types of bowel disease, herpes, mental illness and difficulty for diabetics to control blood sugar. It states severe stress can cause biochemical changes in the body, affecting the immune system, which leaves the body vulnerable to disease.

Despite the acknowledgement that wind turbine noise may cause annoyance, stress and sleep disturbance the A/CanWEA Panel Review fails to offer any science based guidelines that would mitigate these health risks.

On the contrary the A/CanWEA Panel Review concludes by suggesting that the authoritative health based noise guidelines of the World Health Organization should be ignored and that wind turbine noise limits be based on public policy. "

The French National Academy of Medicine has called for a halt of all large-scale wind development *within 1.5 kilometers (roughly 1 mile) of any residence, and the U.K. Noise Association recommends a 1km separation distance.* Dr Nina Pierpont has done studies on wind turbine noise impacts which she named Wind Turbine Syndrome. Of the ten families included in her case series, all living between a half mile and mile from turbines, eight have (so far) moved out of their homes; Pierpont now recommends setbacks of 2km (1.25 miles) in flat terrain, and 3.2km (2 miles) in hilly terrain. Pierpont's peer-reviewed Wind Turbine Syndrome book was recently released. More information is available at www.windturbinesyndrome.com.

Here is a link to a video with turbine noise. Please read the notes under the video box, including the one from Rick James noting the video audio is missing much of the low frequency content from about 250 Hz down. It is the lower frequency sounds of the turbines that penetrate homes and vibrate buildings. <http://www.windaction.org/videos/15829>

A reference to the NREL Overview of Existing Wind Energy Ordinances is made at page 61 and elsewhere in this MND. This linked Washington Times piece, reportedly based on documents obtained through the Freedom of Information Act, indicates that the NREL is not an unbiased apolitical entity especially where industrial wind energy is involved: <http://washingtontimes.com/news/2010/mar/09/covering-up-the-wind-energy-failure//print/>.

The Department of Energy's [Lawrence Berkeley National Laboratory report](#) titled "The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi- Site Hedonic Analysis" released December 2009 generated media headlines claiming "Wind farms have no effect on property value." The DOE report which cost taxpayers \$500,000, has since been discredited by numerous professionals. In his paper, "[Wind Farms, Residential Property Values, And Rubber Rulers](#)" Albert R. Wilson, a valuer of environmental impacts on business and real estate, with 25 years experience including 10 years of teaching and writing on the subject, writes that the underlying methods used in the development of the DOE study raise serious questions concerning the credibility of the results. In particular, the authors failed to follow any of the well-developed and tested standards for performing regression analyses on property sales. Wilson's view is shared by others. See the Wilson report here: <http://www.arwilson.com/pdf/newpdfs/WindFarmsResidentialPropertyValuesandRubberRulers.pdf> <http://www.windaction.org/releases/25672>

Please refer to more extensive comments and linked documents on pages 11-13 in our attached Tule Wind, ECO substation and Energia Sierra Juarez scoping comments on Wind Turbine Syndrome, and other turbine noise related reports. At a minimum the County should take their lead from the 2008 "how to" guide for criteria for siting to prevent health risks from sound by George Kamperman and Rick James which is referenced by the County. The professional report can be found at <http://windaction.org/documents/17229>. It recommends 1.5 km setback. Dr. Nina Pierpont's Wind Turbine Syndrome peer reviewed research now recommends a 2 km setback in hilly terrain. Kamperman/James recommend testing prior to approval to establish ambient noise / vibration levels in order to create enforceable contracts and mitigation requirements.

Here is a link to a British article (Sunday Times 12-13-09) regarding a cover up of wind turbine noise issues in a government report :
<http://www.timesonline.co.uk/tol/news/environment/article6954565.ece>.

In his Sleep disturbance and wind turbine noise, Dr. Christopher Hanning (May 2009) stated that: "*In my expert opinion, from my knowledge of sleep physiology and a review of the available research, I have no doubt that wind turbine noise emissions cause sleep disturbance and ill health*". Find the full report at: <http://www.windaction.org/documents/22602>

Perspectives on wind turbine noise by Dr. G. P. van den Berg appeared in the Summer 2009 issue of Echoes, the newsletter of the Acoustical Society of America. See the short report at: <http://www.windaction.org/documents/22351>

See the Acoustic Ecology Institute's Special Report : Wind Energy Noise Impacts at :
<http://www.acousticecology.org/srwind.html>

b) Exposure of persons to or generation of excessive groundbourne vibrations or groundborne noise levels. See noise comments above. We strongly disagree that a setback of 600 -1,000 feet will ensure no impacts. The cited 1995 Transit Noise and Vibration Impact Assessment is outdated and not really applicable to the known and emerging impacts from industrial wind turbines.

In regards to noise / vibration impacts on wildlife see the study noted below at : <http://aeinews.org/archives/573>. Endangered and sensitive species will be impacted by the proliferation of wind energy projects in and near sensitive lands, conserved lands, critical habitat, critical wildlife corridors and more:

NPS study: moderate noise can have major impacts on animals

December 12, 2009 in The Acoustic Ecology Institute

An ongoing research project from the National Park Service Natural Sounds Program is about to publish a groundbreaking paper that outlines the many ways that even moderate increases in human background noise can create major impacts on animals. The study proposes a new metric for use in bioacoustics research, the "effective listening area." This is the area over which animals can communicate with each other, or hear other animals' calls or movements; as might be expected, animals focus especially on listening for sounds at the very edges of audibility, so that even a small increase in background noise (from a road, wind farm, or regular passing of airplanes) can drown out sounds that need to be heard. The authors note analyses of transportation noise impacts often assert that a 3dB increase in noise - a barely perceptual change - has "negligible" effects, whereas in fact this increased noise reduces the listening area of animals by 30%. A 10dB increase in background noise (likely within a few hundred meters of a road or wind farm, or as a private plane passes nearby) reduces listening area by 90%.

Noise pollution exacerbates the problems posed by habitat fragmentation and wildlife responses to human presence; therefore, highly fragmented or heavily visited locations are priority candidates for noise management. Noise management might also offer a relatively rapid tool to improve the resilience of protected lands to some of the stresses imposed by climate change."

The findings include the following:

- Masking affects not only audibility, but understanding: "thresholds for discrimination between calls of the same species were consistently higher than were detection thresholds for the same calls." Not surprising, but easy to forget: background sound often obscures the words being said, though we can still hear the voice.
- Bats that listen for ground movements of their prey hunt more in quiet areas than noisy ones; similarly insect-eating birds are more likely to avoid noisy areas than other birds.
- Masking can also make it more difficult for animals to tell what direction a call (such as a mating call) is coming from
- Pronghorn antelope showed a marked shift in proportion of time spent foraging and in vigilance (looking around) when closer to roads: foraging dropped from 45% of the time to 35%, while vigilance increased from 40% to over 50%.
- Two key studies of increased vigilance in clearly noise-triggered contexts: Ground squirrels showed a marked increase in vigilance behavior when hearing squirrel alarm calls at a site in a wind farm than in a quiet site (including a slightly less "relaxed" non-vigilance baseline state), and a lab study with chaffinches found that the mean time spent pecking (eating) between times scanning the area decreased when noise was introduced.

The authors conclude by stressing: *“Chronic noise exposure is widespread. Taken individually, many of the papers cited here offer suggestive but inconclusive evidence that masking is substantially altering many ecosystems. Taken collectively, the preponderance of evidence argues for immediate action to manage noise in protected natural areas....The costs of noise must be understood in relation to other anthropogenic forces, to ensure effective mitigation and efficient realization of environmental goals. Noise pollution exacerbates the problems posed by habitat fragmentation and wildlife responses to human presence; therefore, highly fragmented or heavily visited locations are priority candidates for noise management. Noise management might also offer a relatively rapid tool to improve the resilience of protected lands to some of the stresses imposed by climate change.”*

Here is a link to an article regarding the loss of a goat herd on impacts from industrial wind turbines:
<http://news.bbc.co.uk/2/hi/asia-pacific/8060969.stm>

Here is link to another article regarding a family that had to move from their farm due to impacts from an industrial wind farm on their health and the health of their alpaca herd.:
<http://betterplan.squarespace.com/todays-special/2009/5/20/52009-its-all-in-your-head-are-you-a-congenitally-unhappy-pe.html>

c)We strongly disagree that the impact from a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project are less than significant. There will be significant and cumulative impacts from multiple wind energy project. The proposed zoning ordinance amendments will allow for more wind energy projects overall with increased density--due to significantly reduced setback requirements. They also set a precedent for projects on lands outside County authority. Setback requirements with a minimum of 1-2 miles are needed to protect the human and natural communities from these unnatural industrial scale noise and vibrations impacts.

d) We strongly disagree that the substantial temporary or periodic increase in ambient noise levels in the project vicinity will be less than significant. See comments above on noise and vibration impacts. We are also concerned with the proper establishment / documentation of pre-project ambient noise and vibrations levels and enforceable permit requirements to ensure protection of people and animals.

XIII. PUBLIC SERVICES (page 69):

It is our strong opinion that the cumulative impacts from the proliferation of more large scale wind turbine facilities , more dense projects, allowed by these proposed zoning ordinance amendments with reduced setbacks, will be significant. The introduction of new wind turbine projects and the necessary new transmission lines and substations, including those on surrounding lands not under County jurisdiction, will require the building, equipping, and staffing of numerous new fire / emergency response facilities to address significant new fire, public health and safety, threats these projects represent.

XIV. RECREATION (page 70):

It is our strong opinion that there will be significant and cumulative adverse impacts to recreation resources in the East County area based on the increased number of wind energy projects, with increased density, that will be allowed with the proposed amendments--including projects on lands outside County jurisdiction. Reduced / lost recreation opportunities in the impacted areas may require mitigation within the same planning area.

XV. TRANSPORTATION / TRAFFIC (page 70):

a & b) The construction and ongoing maintenance of multiple industrial wind energy projects in the same area could impact rural roads and intersections, especially if they were not designed, engineered, or constructed to meet the needs of heavy truck traffic carrying huge heavy weight components. Most of our rural roads do not meet current standards. Components delivered to the installation sites by truck would be of significant weight. Nacelles, typically transported in two sections, can have a total weight of 80 tons. Assembled cranes, typically transported in as many as 15 trucks, can weigh as much as 450 tons. Some of these projects may be located on lands outside of County jurisdiction while impacting County roads, traffic, and maintenance requirements. The Tule wind project proposes to bulldoze a new road across the Tule Creek 100 year flood plain--because their large equipment will not fit under the I-8 overpass on McCain Valley Road. During wet years Tule Creek is flowing stream that feeds into protected lands and habitats.

c) Cumulative and significant impacts to flight paths and aerial operations for military, law enforcement (including Border Patrol), air ambulance, etc, may result from the proliferation of wind turbine projects and the more dense projects allowed by the reduced setback requirements in these proposed amendments. The turbulence from wind turbine facilities can also impact Doppler radar showing as false storm activity which may also result in changed flight paths and operations.

d) See comments "a" & "b" above.

e) Cumulative impacts with reduced emergency services access could occur on dead end rural roads, including recreation areas in McCain Valley, if blocked by collapsed towers, debris fields from malfunctioning turbines, fires and explosions generated by single or multiple projects, including those on lands outside County jurisdiction. Tule Wind project proposes to use Ribbonwood Road for construction and maintenance access for their McCain Valley road project, the same road proposed for ingress/egress for the new Boulevard Border Patrol station just north of I-8. Turbines and transmission lines will also impede fire and rescue services in and around project areas.

XVI. UTILITIES AND SERVICE SYSTEMS:

d) In the groundwater dependent rural areas of East County, where most of the wind energy projects are focused, there could be significant and cumulative impacts from the construction and maintenance of multiple wind energy projects, and the related new transmission and substation projects and access roads. The proposed zoning ordinance amendments can increase the number and density of these projects thereby creating cumulative impacts--some of which may be outside County jurisdiction. The Sunrise Powerlink project, and their ongoing quest for legally acceptable water sources , is an example of the difficulties of finding adequate water resources in the backcountry. The PUC and BLM approved that project prior to a water source being determined and secured.

f & g) We strongly disagree that the generation of solid waste is not anticipated with wind and solar projects. Cumulative impacts from construction and demolition debris (which the County requires to be recycled) and the fairly frequent need to dispose of damaged wind turbine blades, which reportedly cannot be recycled due to their composite nature, from multiple industrial wind energy projects in rural areas that no longer have any bin/ transfer sites or other form of publicly available disposal, is significant and must be addressed. There are also waste oil storage and transportation requirements for turbine projects. Cumulative impacts include multiple projects that may be outside County jurisdiction. We point to the existing Kumeyaay Wind facility which had to remove all 75 turbine blades from all 25 turbines after they suffered catastrophic failure during the December 7, 2009 storm event. Damaged blades are currently littering the ground at the base of the turbines, along with the discarded rotor nose cones. The lack of a close disposal / recycling facility will increase the need

for truck transport of waste with increased GHG impacts. Sycamore Landfill in Santee, approximately 60 miles to the west, is the closest licensed facility. A proliferation of wind projects could result in need to dispose of a significant number of blades, approximately 150 feet in length and weighing several tons each.

XVII.MANDATORY FINDINGS OF SIGNIFICANCE:

a, b & c) We challenge the County's findings that no significant, cumulative, or substantial environmental effects will occur due to the proposed zoning ordinance amendments and significantly reduced setback requirements. We believe our detailed comments and references prove that there will be significant, cumulative and substantial environmental effects / impacts including adverse effects on both the human and natural communities. These effects will also adversely impact our rural property values. See our attached joint scoping comments to the PUC/BLM on Tule Wind, ECO Substation and Energia Sierra Juarez projects (dated 2-15-10) for more information on all the issues noted in these comments and more.

Multiple wind energy, and their related transmission and other infrastructure projects and easements will generate significant and cumulative impacts to the proposed East County MSCP and **the Las Californias Binational Conservation Initiative (LCBCI)**. **The LCBCI has already scientifically identified much Southeastern San Diego County, targeted for industrial wind energy projects and transmission infrastructure, as globally significant and rare Mediterranean mosaic with diverse and abundant wildlife, including endangered and sensitive species, critical habitat and wildlife corridors.**

The attached LCBCI report includes the following summary: *"The border region of California and Baja California—Las Californias—lies at the center of one of the world's biodiversity hotspots, harboring ecosystems and species that occur nowhere else on earth. It is also a growing, multi-national metropolitan area of more than 5 million people. The integrity and functionality of ecosystems in the border region, as well as the health, economy, and standard of living of its residents, depend on a system of open space reserves that are interconnected across the international border. The urgency of this need cannot be overstated, as the ever-growing human footprint of development is beginning to preclude opportunities for protecting a functional open space system."*

Over 1,000 acres was already purchased in Jacumba, for inclusion into the Anza Borrego Desert State Park, as part of the LCBCI process. It is our understanding that other purchases have been made in the Hauser Canyon area that has also been the target of industrial wind energy proponents.

CONCLUSION:

We strongly urge the County to withdraw/deny the proposed Mitigated Negative Declaration for the Solar Wind Energy Zoning Ordinance Amendment and to move forward with the legally required Environmental Impact Report mandated by CEQA to address the significant and cumulative impacts generated by the proposed amendments, including impacts from projects on lands outside County jurisdiction.

The County is flat out wrong to state that these proposed zoning ordinance amendments will *"improve and enhance public welfare and safety"* and that *"It is not believed that noise generated from large turbine facilities results in impacts to human health"*. They are a huge step backwards from the previous requirements (*reducing setbacks from a previous 4-8 times the height of the turbine system down to 1-3 times*) and will result in significant and cumulative negative impacts to public health, welfare, safety, and much more.

The significantly reduced setbacks will result in an increased health and safety threat from noise, infrasonic vibrations, and malfunctioning turbines to adjacent non-participating properties, including residences, recreation areas, trails, conserved wild lands, and more. Industrial wind facilities require significant amounts of back up generation, often equal to the capacity of the wind farm itself, which is usually gas-fired power that has need to be kept available on standby.

We have provided enough information to support our request for significant increased setback requirements related to industrial wind turbines, more in line with the requirements in the current zoning ordinance. New and emerging information fully justifies setbacks of at least 1-2 miles for industrial wind turbines, which now stand an average of 500 feet tall, to protect public health and safety, the environment, and rural property values.

It is unconscionable and perhaps unlawful for the County to deny the evidence we have presented of the real harm / damage that can result from the installation and operation of industrial scale wind energy facilities. Especially in rural areas, where the ambient noise and vibration levels are generally low with even lower night time noise levels. Property owners have actually been bought out by wind energy project owners based on impacts to their health and well being. Unfortunately, those buyout agreements usually include a gag order to protect the project owner/ investors.

The County and its various agencies have both a legal and a moral duty and obligation to protect its citizens and its scientifically identified globally significant and rare resources and wildlife linkages in East County, as documented in the Las Californias Binational Conservation Initiative. We strongly encourage the County to comply with that legal and moral obligation instead of caving in to the overblown and unsupported claims made by the industrial scale wind industry representatives who, from all appearances, place their profits far above public health and safety and the overall well being of our rural human and natural communities. Their financial gain comes at the expense of our rural communities, our quality of life and more, and at the increased expense of tax and rate payers (us again). Unlike the corporate industrial wind entities, with headquarters out of state and overseas, we live here and will face significant and cumulative impacts on a daily basis--unless we are eventually forced from our homes as others have been forced from theirs after various agencies allowed industrial wind turbines to be built too close. The few local jobs that may be created and any financial benefits the County might receive are not worth the transformation of rural east county into an industrial zone for an industry that may be obsolete in just a few years and no longer supported by massive government subsidies.

There are many opportunities for San Diego County to protect valuable and critical rural resources while generating renewable energy at and near the point of use, including the emerging fuel cells with combined heat and power like the Bloom Box and Clean Edge, that negate the falsely professed need for industrial scale wind energy projects, and large scale solar projects in environmentally sensitive areas of East County that require new extensive, expensive and destructive, transmission infrastructure and back up generation.

Please do the right thing and deny the proposed Negative Declaration, which represents cumulative and significant impacts, and move forward with a full Environmental Impact Report in compliance with CEQA.

Sincerely,

Donna Tisdale, Chair
691-766-4170
donnatisdale@hughes.net

EXHIBIT 4



Science 13 June 2008:
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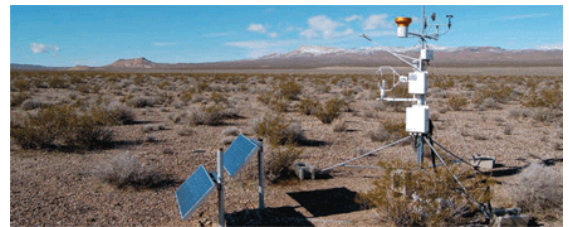
News of the Week

ECOSYSTEMS:

Have Desert Researchers Discovered a Hidden Loop in the Carbon Cycle?

Richard Stone

URUMQI, CHINA--When Li Yan began measuring carbon dioxide (CO₂) in western China's Gubantonggut Desert in 2005, he thought his equipment had malfunctioned. Li, plant ecophysiologicalist with the Chinese Academy of Sciences'Xinjiang Institute of Ecology and Geography in Urumqi, discovered that his plot was soaking up CO₂ at night. His team ruled out the sparse vegetation as the CO₂ sink. Li came to a surprising conclusion: The alkaline soil of Gubantonggut is soaking away large quantities of CO₂ in an inorganic form. A CO₂-gulping desert in a remote corner of China may not be an isolated phenomenon. Halfway around the world, researchers have found that Nevada's Mojave Desert, square meter for square meter, absorbs about the same amount of CO₂ as some temperate forests. The two sets of findings suggest that deserts are unsung players in the global carbon cycle. "Deserts are a larger sink for carbon dioxide than had previously been assumed," says Lynn Fenstermaker, a remote sensing ecologist at the Desert Research Institute (DRI) in Las Vegas, Nevada, and a co-author of a paper on the Mojave findings published online last April in *Global Change Biology*.



Waiting to exhale? CO₂ flux readings suggest that the Mojave Desert in Nevada is gulping carbon at the rate of a temperate forest.
Credit: Desert Research Institute, Nevada

The effect could be huge: About 35% of Earth's land surface, or 5.2 billion hectares, is desert and semiarid ecosystems. If the Mojave readings represent an average CO₂ uptake, then deserts and semiarid regions may be absorbing up to 5.2 billion tons of carbon a year--roughly half the amount emitted globally by burning fossil fuels, says John "Jay" Arnone, an ecologist in DRI's Reno lab and a co-author of the Mojave paper. But others point out that CO₂ fluxes are notoriously difficult to measure and that it is necessary to take readings in other arid and semiarid regions to determine whether the Mojave and Gubantonggut findings are representative or anomalous.

For now, some experts doubt that the world's most barren ecosystems are the long-sought missing carbon sink. "I'd be hugely surprised if this were the missing sink. If deserts are taking up a lot of carbon, it ought to be obvious," says William Schlesinger, a biogeochemist at the Cary Institute of Ecosystem Studies in Millbrook, New York, who in the 1980s was among the first to examine carbon flux in deserts. Nevertheless, he says, both sets of findings are intriguing and "must be followed up."

Scientists have long struggled to balance Earth's carbon books. While atmospheric CO₂ levels are rising rapidly, our planet absorbs more CO₂ than can be accounted for. Researchers have searched high and low for this missing sink. It doesn't appear to be the oceans or forests--although the capacity of boreal forests to absorb CO₂ was long underestimated. Deserts might be the least likely candidate. "You would think that seemingly lifeless places must be carbon neutral, or carbon sources," says Mojave co-author Georg Wohlfahrt, an ecologist at the University of Innsbruck in Austria.

About 20 kilometers north of Urumqi, clusters of shanties are huddled next to fields of hops, cotton, and grapes. Soon after the Communist victory over the Nationalists in 1949, soldiers released from active duty were dispatched across rural China, including vast Xinjiang Province, to farm the land. At the edge of the sprawling "222" soldier farm, which is home to hundreds of families, oasis fields end where the Gubantonggut begins. The Fukang Station of Desert Ecology, which Li directs, is situated at this transition between ecosystems.

In recent years, average precipitation has increased in the Gubantonggut, and the dominant *Tamarix* shrubs are thriving. Li set out to measure the difference in CO₂ absorption between oasis and desert soil. An automated flux chamber measured CO₂ depletion a few centimeters above the soil in 24-hour intervals on select days in the growing season (from May to October) in 2005 and in 2006. The desert readings ranged from 62 to 622 grams of carbon per square meter per year. Li assumed that *Tamarix* and a biotic crust of lichen, moss, and cyanobacteria up to 5 centimeters thick are responsible for part of the uptake. To rule out an organic process in the soil, Li's team put several kilograms in a pressure steam chamber to kill off any life forms and enzymes. CO₂ absorption held steady, according to their report, posted online earlier this year in *Environmental Geology*.

"The sterilization treatment was impressive," says biogeochemist Pieter Tans, a climate change expert with the U.S. National Oceanic and Atmospheric Administration in Boulder, Colorado. "They may have found a significant effect, previously neglected, but I would like to see more evidence." Indeed, the high end of the Urumqi CO₂ flux estimates are off the charts. "That's more carbon uptake than our fastest growing southern forests. It's a huge number. I find it extremely hard to believe," says Schlesinger, who nonetheless says the Chinese team's methodology looks sound.

Missing sink? *Tamarix* shrubs are thriving in China's Gubantonggut Desert, but the soil itself may be soaking away far more CO₂ at night. Credit: M. Stone



At first, Li was flummoxed. Then, he says, he realized that deserts are "like a dry ocean." The pH of oceans is falling gradually as they absorb CO₂, forming carbonic acid. "I thought, 'Why wouldn't this also happen in the soil?'" Whereas the ocean has a single surface for gas exchange, Li says, soil is a porous medium with a huge reactive surface area. One question, Tans notes, is why the desert soils would remain alkaline as they absorb CO₂. Li suggests that ongoing salinization drives pH in the opposite direction, allowing for continual CO₂ absorption. But where the carbon goes--whether it is stowed largely as calcium carbonate or other salts--is unknown, Li says. Schlesinger too is stumped: "It takes a long time for carbonate to build up in the soil," he says. At the apparent rate of absorption in China, he says, "we'd be up to our ankles in carbon." One possibility, DRI soil chemist Giles Marion speculates, is that at night, CO₂ reacts with moisture in the soil and perhaps with dew to form carbonic acid, which dissolves calcium carbonate--a reaction that warmer temperatures would drive in reverse, releasing the CO₂ again during the day. (Unlike most minerals, carbonates become more soluble at lower temperatures.) In that case, Marion says, Li's nighttime absorption would tell only half the story: "I would expect that over a year, there would be no significant increase in soil storage due to this process," he says, as the dynamic of carbon sequestration in the soil would vary from season to season. Li agrees that this scenario is plausible but notes that his daytime measurements of CO₂ flux did not negate the nighttime uptake.

In any case, other researchers say, absorption alone cannot explain the substantial uptake in the Mojave. Wohlfahrt and his colleagues measured CO₂ flux above the loamy sands of the Nevada Test Site, where the United States once tested its nuclear arsenal. From March 2005 to February 2007, the desert biome absorbed on average roughly 100 grams of carbon per square meter per year--comparable to temperate forests and grassland ecosystems--the team reported in its *Global Change Biology* paper.

Three processes are probably involved in CO₂ absorption, Wohlfahrt says: biotic crusts, alkaline soils, and expanded shrub cover due to increased average precipitation. "We currently do not have the data to say where exactly the carbon is going," he says. Like the Urumqi team, Wohlfahrt and his colleagues observed CO₂ absorption at night that cannot be attributed to photosynthesis. "I hope we can corroborate the Chinese findings in the Mojave," he says. Arnone and others, however, believe that carbon storage in soil is minimal.

Wohlfahrt suspects biotic crusts play a key role. "People have almost completely neglected what's going on with the crusts," he says. Others are not so sure. "I'm mystified by the Mojave work. There is no way that all the CO₂ absorption observed in these studies is due to biological crusts, as there are not enough of them active long enough to account for such a large sink," says Jayne Belnap of the U.S. Geological Survey's Canyonlands Research Station in Moab, Utah. She and her colleagues have studied carbon uptake in the southern Utah desert, which has similar crust species. "We do not see any such results," she says.

Provided the surprising CO₂ sink in the deserts is not a mirage, it may yet prove ephemeral. "We don't want to say that these ecosystems will continue to gain carbon at this rate forever," Wohlfahrt says. The unexpected CO₂ absorption may be due to a recent uptick in precipitation in many deserts that has fueled a visible surge in vegetation. If average annual rainfall levels in those deserts were to abate, that could release the stored carbon and lead to a more rapid buildup of atmospheric CO₂--and possibly accelerate global warming.

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EXHIBIT 5



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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Reply To: 6320.0010(10)
File Name: 2010 EFSC ASC Summit Ridge Cmts 09202010
TS Number: 10-1494
TAILS: 13420-2009-FA-0217

September 20, 2010

Sue Oliver
Energy Facility Siting Officer
Oregon Department of Energy
245 Main Street, Suite C
Hermiston, OR. 97838

Subject: Request for Comments on the Application for Site Certificate for the proposed Summit Ridge Wind project, Wasco County, Oregon

Dear Ms. Oliver:

The Fish and Wildlife Service (Service) has reviewed the August 24, 2010, Application for a Site Certificate (ASC) for the proposed Summit Ridge Wind Project (Project) to be located in Wasco County, Oregon. The proposed Project will include up to 87 wind turbines (2.0 to 3.0 MW each) with a total nominal generating capacity of approximately 200 MW of electricity. The Project will include about 19 miles of new access roads, turbine foundations, underground and overhead electrical collection systems, meteorological towers, and an operations and maintenance building. The Project will also include a communications system, a substation, and interconnection facilities to tie into the transmission line, located to the west of the project. The transmission feeder line will be an overhead 230 kV (kilovolt) line and will be approximately eight miles long.

Much of the project site is agricultural land used for dry land winter wheat production. The proposed facility would be built on land one to four miles west of the Deschutes River Canyon extending from approximately river mile 7 on the north end of the project boundary to river mile 31 on the south end. The Service supports the use of disturbed habitats for the placement of wind energy generation. However, we remain concerned regarding short and long-term Project impacts to migratory birds including bald and golden eagles, and bats.

The Service supports renewable energy and the economic benefits that wind energy generation brings to local communities. We also recognize wind power development has the potential to impact wildlife and habitat resources. The Service provided comments on the Notice of Intent to Apply for an Energy Facility Site Certificate (NOI) for the Project in a letter dated July 13, 2009, and Preliminary ASC in a letter dated November 18, 2009. We appreciate the opportunity to

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provide additional comments, and we look forward to working with you and LotusWorks on this important project.

Our previous comment letters focused on: (1) the potential for project specific mortality to birds and bats, including cumulative impacts of wind energy projects within the Columbia River corridor; and (2) measures to avoid or minimize Project impacts and adequate mitigation to offset unavoidable project impacts to biological resources. The Service subsequently received information in an email on June 24, 2010, from LotusWorks documenting the presence of golden eagles, large stick nests, and bald eagles in the project vicinity. Our comments below will focus on project impacts to bald and golden eagles and other migratory birds. We refer you to our previous two letters referenced above regarding other issues of concern.

Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, and nests except when specifically permitted by regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during specific wind project operations even if all known reasonable, effective measures to protect birds are implemented. The Service's Office of Law Enforcement (OLE) carries out its mission to protect migratory birds through investigations and enforcement as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the OLE focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent and effective measures to avoid that take.

Additionally, the Bald and Golden Eagle Protection Act (BGEPA) prohibits the taking of golden and bald eagles except when specifically authorized by the Department of the Interior (16 U.S.C. 668-668d). The Service has new regulations (Federal Register 74:46836-46879; 11 September 2009) (USFWS 2009) that may eventually allow a wind project to receive a permit to take golden or bald eagles under the BGEPA (50 CFR 22.26), for programmatic actions that are consistent with the goal of stable or increasing eagle breeding populations. Therefore, we encourage LotusWorks to work closely with the Service to identify available protective measures and develop an Avian and Bat Protection Plan (ABPP) and implement those measures prior to and during Project construction and operation.

The Service's goal for golden and bald eagles is stable or increasing breeding populations. Data from long-term studies of golden eagle migration, population models, and surveys sponsored by the Service indicate cause to be concerned about population trends for golden eagle (Millsap and Allen 2006, Good et al. 2007, Farmer et al. 2008, Smith et al. 2008, USFWS 2009). The Service was sufficiently concerned regarding the status of golden eagles that we determined, until further data shows golden eagle populations can withstand additional take, we will only consider BGEPA permit issuance of new golden eagle take for safety emergencies and for projects that

result in net benefits to golden eagles. Bald eagle permit issuance criteria would limit permits to only 5% of the Maximum Sustainable Yield.

Project Impacts and Service Recommendation

Golden eagles and other bird species are known to collide with wind turbines and transmission lines. Studies for the Project document the presence of golden eagles (12 detections) and three inactive large stick nests that were likely golden eagle nests, with a fourth nest that may have been built by golden eagles. These nests were located within 1,000 to 10,000 feet from Project wind turbines (Northwest Wildlife Consultants, Inc. 2010). Additionally, adult bald eagles were observed (4 detections) on or in proximity to the Project. The Service is concerned regarding the potential for injury or mortality from a turbine strike, transmission line collision, or other Project-related disturbance to bald and golden eagles. The Project studies and reports provide only a limited eagle impact analysis.

With the expected growth of the wind industry in the western United States, the Service anticipates that the number of golden eagles killed annually will multiply. The Service is concerned that the population trend of golden eagle will drop even more rapidly as a result of collisions with wind turbines, resulting in greater conflicts between renewable energy industry and agencies. Ultimately, fewer golden eagles will exist unless we find solutions to either greatly reduce golden eagle mortalities at wind projects, reduce other sources of mortality to off-set losses of golden eagles from wind farms, or enhance golden eagle populations with habitat or other reforms.

In the absence of clear solutions to address golden eagle mortalities at wind energy projects, to enhance populations through conservation measures, or to off-set losses in other ways, our best efforts should be directed at avoidance of mortalities by siting wind turbines well away from areas where resident and migrating eagles are known to concentrate their activities. The Service believes the Project, including all turbines, transmission and roads, and associated facilities has the potential to result in injury and mortality of individual golden eagles and potential loss of nest sites over the life of the Project.

The Service recommends that LotusWorks prepare an Avian and Bat Protection Plan consistent with the Service "white paper" titled *Consideration for Avian and Bat Protection Plans* (FWS 2010) that addresses bald and golden eagles, other migratory bird species of concern, and bats. We recommend that the Oregon Department of Energy defer the approval of the Project site certificate until an Avian and Bat Protection Plan is completed, and available for review. We further recommend the following measures be incorporated into any site certificate approval:

To reduce the likelihood of golden eagle take and to minimize Project impacts, we recommend the following measures be included in the development of the Project:

1. Minimize the potential for resident golden eagle collisions by locating individual Project wind turbines a sufficient distance from golden eagle nest sites. Based on the best information available to us, a radius of a minimum of six miles from a golden eagle nest to the nearest turbine will likely avoid take of adult golden eagles associated with that nest. Any wind turbines proposed closer than six miles to golden eagle nests should not

be constructed until specific golden eagle studies have been implemented that define areas where no golden eagle use occurs (see studies in #2, below). These golden eagle-specific data should then be integrated into a protective turbine location “micrositing” design where turbines within six miles of a golden eagle nest are only sited in areas determined to be golden eagle non-use locations;

2. Conduct site specific studies to help define areas of use and non-use by golden eagles including:
 - Complete nest surveys within six miles of the Project location;
 - Conduct observation-post studies to observe the behavior of the adults (if present) without disturbing nesting behavior. These studies collect information on territory occupancy, productivity, fledging success, foraging and winter habitat and other information per the Interim Golden Eagle Inventory and Monitoring Protocols (Pagel et al. 2010); and
 - Satellite telemetry of nesting golden eagles within six miles of Project location.
3. Develop a Project construction plan that fully integrates avoidance of golden eagle disturbance during construction activities by implementing concurrent protective timing windows and distance buffers during sensitive nesting and fledging activities.
 - Distance and timing: Construction and maintenance activities between January 1 and July 15 should not be conducted within 1 mile of an active golden eagle nest (or ½ mile if not line-of-sight), unless site specific surveys indicate otherwise.

The Service has regulations in place that allow us to issue 'Programmatic Permits' to project applicants whose developments have the potential to incidentally 'take' golden eagles over extended periods of time. The Service is not currently issuing those permits, but is developing conditions that will likely be components of them. Permit conditions will likely include, appropriate Advanced Conservation Practices - measures that represent the best available techniques to reduce take to a level where additional take is unavoidable: and permit conditions will also likely include mitigation measures to offset whatever birds are taken so that the effect of the Project on eagles will be consistent with the Service's goal of stable or increasing breeding populations. It is possible that a programmatic permit issued by the Service when it becomes available, would include as permit conditions many of the recommendations for monitoring, adaptive management and conservation actions described below:

1. Develop and implement a golden eagle monitoring plan (including monitoring of Project-related golden eagle mortality, golden eagle territory occupancy, nest success, and productivity) over the life of the Project to ensure all golden eagles injured or killed by wind turbines or other impacts to golden eagles are immediately identified and reported.
2. Develop and implement an adaptive management plan to address new information that is obtained during operation of the Project, including all turbines, transmission, and roads, and connected wind projects that effectively address any identified problems.

- Utilize turbine feathering and cut-in speeds of 5 m/sec to 6 m/sec at times of low wind speed to reduce bird (and bat) fatalities;
- Lock rotors during daytime and at night during peak migration periods and peak presence of migrating birds and bats;
- Specific commitment to integrate turbine operation curtailment (seasonally or permanently) into Project management to minimize impacts to bald and golden eagles;
- Specific commitment to remove turbines if they are found to cause repeated mortalities of golden or bald eagles;
- Experimental procedures (e.g. blade painting for higher visibility);
- Minimize lighting associated with the Project including:
 - a) FAA visibility lighting of wind turbines should employ only strobed, strobe-like, or blinking incandescent lights, preferably with all lights illuminating simultaneously; and
 - b) Keep lighting at both operation and maintenance facilities and substations located within ½ mile of the turbines to a minimum level by using motion or infrared light sensors and switches to keep lights off when not required; shield operation lights downward, and do not use high intensity, steady burning, bright lights; and
- Commitment to implement future technology when available.

Additionally, specific conservation actions should be collaboratively developed with the Service to meet the conservation goal of stable or increasing breeding populations of golden and bald eagles. The Service cannot permit take of golden eagles; however were we able to, we would look for the types of measures identified below to potentially offset such take in a manner that is consistent with the goal of stable or increasing breeding populations of golden eagles. The local-area eagle population of concern in this case is the area encompassed by a circle 140 miles from the Project boundary, by definition (USFWS 2009). This is the area within which we would expect evaluations of the effects of this Project on eagles would take place. The following should guide any collaborative development of proposed conservation measures:

- Ensure no net loss or an increase in golden eagles in the local-area population via:
 - Land acquisitions or easement purchases;
 - Nest site protection;
 - Habitat enhancement via:
 - Restoration projects (e.g. juniper removal in shrub-steppe systems that will enhance prey base);
 - Grassland restoration efforts with native grasslands;
 - Cheatgrass control programs;
 - Nest platforms;
 - Nest enhancements;
 - Reduce electrocution mortality via partnering with utilities to implement Avian Power Line Interaction Committee standard (APLIC 2006) retrofits of problem distribution lines;
 - Reduce losses to lead poisoning via:
 - Education program on lead poisoning;

- Raptor rehabilitation centers;
- Contribute to regional or population-wide monitoring and research on golden eagles and wind turbines to better inform management across the West.

Conclusion

The Service appreciates the opportunity to comment on the ASC for the Summit Ridge Wind Project. We support well-designed wind projects that are carefully sited on habitats that will result in less impacts to Service trust resources. We recommend that the Oregon Department of Energy defer the approval of the Project site certificate until an Avian and Bat Protection Plan is completed, and available for review. We further recommend the measures outlined in this letter be incorporated into any site certificate approval. The Service is available to continue to work with LotusWorks in the review, development, mitigation, and monitoring of the Project.

If you have any questions regarding the Service's comments or desire to meet with us to discuss these issues further, please contact Jerry Cordova or me at (541) 383-7146.

Sincerely,



Nancy Gilbert
Field Supervisor

cc:

Steve Cherry, Oregon Department of Fish and Wildlife, Heppner, Oregon
Chris Carey, Oregon Department of Fish and Wildlife, Bend, Oregon
Mike Green, US Fish and Wildlife Service, Migratory Birds, Portland, Oregon
Doug Young, US Fish and Wildlife Service, Oregon Fish and Wildlife Office, Portland, Oregon
Robert Romero, US Fish and Wildlife Service, R1 Law Enforcement, Oregon

References

- Avian Power Line Interaction Committee (APLIC). 2006. Suggested practices for avian protection on power lines: the state of the art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission, Washington, D.C. and Sacramento, CA.
- Farmer, C.J., L.J. Goodrich, E. Ruelas Inzunza, and J.P. Smith. 2008. Conservation status of North America's birds of prey. Pp. 303 – 420 *In* K.L. Bildstein, J.P. Smith, E. Ruelas Inzunza and R.R. Veit (eds.). State of North America's birds of prey. Series in Ornith. # 3, Nuttall Ornith. Club and the Am. Ornith. Union.
- Good, R.E., R.M. Nielson, H. Sawyer, and L.L. McDonald. 2007. A population estimate for golden eagles in the western United States. *J. Wildl. Manage.* 71:395-402.
- Millsap, B.A., and G.T. Allen. 2006. Effects of falconry harvest on wild raptor populations in the United States: theoretical considerations and management recommendations. *Wildl. Soc. Bull.* 34:1392-1400.
- Northwest Wildlife Consultants, Inc. (NWC) 2010. Ecological Baseline Studies and Impact Assessment for the Summit Ridge Wind Power Project, Summit Ridge Wind Power Project. March 22, 2010. Pendleton, OR. and Goldendale, WA. 85 pages.
- Northwest Wildlife Consultants, Inc. (NWC) 2010. Summit Ridge Wind Project Habitat Mitigation Plan, Summit Ridge Wind Power Project. March 30, 2010. Pendleton, OR. and Goldendale, WA. 4 pages.
- Northwest Wildlife Consultants, Inc. (NWC) 2010. Summit Ridge Wind Project Wildlife Monitoring and Mitigation Plan, Summit Ridge Wind Power Project. March 30, 2010. Pendleton, OR. and Goldendale, WA. 9 pages.
- Pagel, J.E., D.M. Whittington, and G.T. Allen. 2010. Interim Golden Eagle technical guidance: inventory and monitoring protocols; and other recommendations in support of eagle management and permit issuance. Division of Migratory Bird Management. US. Fish and Wildlife Service.
- Smith, J.P., C.J. Farmer, S.W. Hoffman, G.S. Kaltenecker, K.Z. Woodruff, and P.F. Sherrington. 2008. Trends in autumn counts of migratory raptors in western North America. *In* K.L. Bildstein, J.P. Smith, E. Ruelas Inzunza and R.R. Veit (eds.). pp 217-254. State of North America's birds of prey. series in Ornith. # 3, Nuttall Ornith. Club and the Am. Ornith. Union.
- U.S. Fish and Wildlife Service (FWS) 2009. Federal Register - 44. 74 FR 46836, Rules and regulations, Department of the Interior (DOI) United States Fish and Wildlife Service (FWS), 50 CFR Parts 13 and 22, [FWS-R9-MB-2008-0057; 91200-1231-9BPP-L2] RIN

1018-AV81, eagle permits; take necessary to protect interests in particular localities, part II, action: final rule. September 11, 2009.

U.S. Fish and Wildlife Service. 2010. Considerations for Avian and Bat Protection Plans. U.S. Fish and Wildlife Service White Paper. 11 pages.

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October 11, 2010

VIA EMAIL AND U.S. MAIL

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matthew.schneider@sdcounty.ca.gov

Re: Backcountry Against Dumps, the Protect Our Communities Foundation and East County Community Action Coalition's Scoping Comments on the San Diego County Wind Energy Ordinance (POD 10-007)

I. INTRODUCTION

These scoping comments are submitted on behalf of Backcountry Against Dumps ("BAD"), the Protect Our Communities Foundation ("POC") and East County Community Action Coalition ("ECCAC") (collectively "Conservation Groups") in response to San Diego County's (the "County's") Notice of Preparation of an Environmental Impact Report ("NOP") for the proposed Wind Energy Ordinance amendments, POD 10-007 ("Amendments" or the "Project"). Conservation Groups commend the County for deciding to prepare a full Program Environmental Impact Report ("PEIR") and appreciate the opportunity to submit these scoping comments thereon.

As described in detail in these scoping comments, the Amendments would have numerous significant impacts that must be analyzed in the PEIR under the California Environmental Quality Act ("CEQA"), Pub. Res. Code § 21000 *et seq.* These include not only the impacts the County determined, in its Initial Study ("IS"), to be potentially significant, but also impacts on water supply, wildfire and emergency response, and climate change.

Additionally, before the County prepares the PEIR, it should further revise the draft Amendments to clarify and/or improve several of their provisions. Most notably, the County should revise the Amendments to (1) give preference to distributed generation projects in

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urbanized or otherwise already developed areas with substantial energy demand and (2) discourage large-scale energy projects on ecologically, culturally, or otherwise sensitive and irreplaceable open space or agricultural land.

II. CONSERVATION GROUPS ARE VITALLY CONCERNED

All three Conservation Groups are directly impacted by the County's proposed Amendments. BAD is a community organization comprising numerous individuals and families residing in the Boulevard region of eastern San Diego County. Members of BAD are directly affected by the County's land use planning and are keenly interested in the proper management of lands within the County in order to maintain and enhance their ecological integrity, scenic beauty, wildlife, recreational amenities, cultural resources, watershed values, and groundwater resources. Some members of BAD rely for their entire domestic, municipal, and agricultural water supply on the vulnerable aquifers of eastern San Diego County that are threatened with contamination and overdrafting by ongoing and proposed land use development. The Amendments present the potential for energy development that could harm the East County's natural resources, and BAD's members.

ECCAC is a coalition of community groups with the common goal of preserving their rural quality of life and the natural resources of eastern San Diego County. ECCAC and its members seek to maintain the ecological integrity, scenic beauty, wildlife, cultural resources, recreational amenities, watershed values, and groundwater resources in eastern San Diego County. ECCAC's members use County lands for aesthetic, scientific, historic, cultural, recreational, and spiritual enjoyment. The Amendments pose the potential to harm the use and enjoyment of these public resources by ECCAC's members as well as the public at large.

POC is a community organization composed of numerous individuals and families residing throughout eastern San Diego County who would be directly affected by projects that might be approved under the Ordinance as amended. POC's purpose is the promotion of a safe, reliable, economical, renewable and environmentally responsible energy future. POC's members use County lands for aesthetic, scientific, historic, cultural, recreational, and spiritual enjoyment. The Amendments and the consequent development of energy development projects and infrastructure it might allow threaten the use and enjoyment of these East County public resources by POC's members.

Accordingly, Conservation Groups respectfully request your careful attention to their comments which follow.

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III. THE PEIR MUST IDENTIFY CUMULATIVE PROJECTS AND THOROUGHLY ANALYZE CUMULATIVE IMPACTS

CEQA mandates that EIRs “discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable.” 14 Cal. Code Regs. (“CEQA Guidelines”) § 15130(a). And a project’s incremental impact cannot be considered insignificant merely because the project and/or other future projects will “compl[y] with [a] specified plan or mitigation program addressing the cumulative problem.” *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 115-16. Further, even where the lead agency determines that a project’s incremental effect would not be cumulatively considerable, it must still “describe its basis for [so] concluding.” CEQA Guidelines § 15130(a).

Here, the County must thoroughly address the Amendments’ cumulative impacts in the PEIR. Further, the County may not rely solely on this Project’s and future projects’ compliance with the County’s land use and other regulations to conclude that the Amendments will not have cumulative impacts. *See Communities for a Better Environment, supra*, 103 Cal.App.4th at 115-16; *Citizens for Quality Growth v. City of Mount Shasta* (1988) 198 Cal.App.3d 433, 443 fn. 8 (city “cannot . . . avoid [CEQA] responsibility for its decision to amend the general plan and rezone . . . site” to allow development of wetlands on ground another agency would regulate and mitigate wetlands impacts). However, the County frequently makes this error in its cumulative impact analyses in the IS. *See, e.g.*, Initial Study (“IS”), pp. 12 (“Therefore, compliance with the Code ensures that the project will not create a significant new source of substantial light or glare, which would [have a significant impact] on a project or cumulative level”), 24 (because specific future projects would require discretionary permits the significant archaeological resources would then be sufficiently protected such that a project would not contribute to a “cumulatively considerable impact”). The County must bolster its analysis and not make the same mistake in the PEIR.

Additionally, the County must be sure to include in its PEIR cumulative impact analyses existing and planned projects occurring on federal land and Indian reservations within and adjacent to San Diego County, which it fails to do in the IS.¹ Not only will these projects contribute substantially to cumulative impacts, many of them are also subject to County

¹ These projects include the existing Southwest Powerlink transmission line, the Sunrise Powerlink transmission line project, the ECO Substation project, the Energia Sierra Juarez Transmission Line project, the Boulevard Substation expansion, the existing Kumeyaay wind facility, Invenergy’s 160 MW Crestwood Wind project, Pacific Wind Development’s Tule Wind Energy project, the Esmeralda-San Felipe Geothermal project and Imperial Valley Solar, L.L.C.’s 709 MW Imperial Valley Solar Project, among others.

regulation, something the County should consider in deciding how best to mitigate cumulative impacts. *California Coastal Commission v. Granite Rock Co.*, 480 U.S. 572, 579-593 (1987)

IV. THE AMENDMENTS WILL HAVE NUMEROUS SIGNIFICANT ENVIRONMENTAL IMPACTS THAT MUST BE ANALYZED IN THE PEIR

It is self-evident from the text of the Amendments that the proposed zoning changes would allow greater development and higher densities of wind energy projects than under the current zoning regulations. To wit, the Amendments would (1) significantly reduce the setback requirements for wind energy projects, (2) substantially increase the allowable wind turbine height for both small and large wind projects, and (3) explicitly allow, for the first time, large wind projects to produce electricity for offsite use. Combined with the planned electricity transmission capacity enhancement projects in the region, including the Sunrise Powerlink transmission line project, the ECO Substation project and others, the changes to existing zoning regulations would make it much more likely that companies and individuals would locate new wind projects, particularly large-scale projects geared towards producing power for offsite use, in San Diego County.² The likely increase in the total number of wind projects, combined with the increased allowable height and density of such projects, would pose many potentially significant environmental impacts that must be carefully examined in the PEIR. These impacts include those on visual resources, agricultural resources, air quality, biological resources, cultural resources, fire and emergency response, geological and soil resources, hazards and hazardous materials, hydrology, water supply and quality, land use planning, noise, public services, recreation, and transportation and utilities, among others. Some of the more prominent impacts are discussed below.

A. Impacts on Visual Resources

By explicitly allowing for the development of large wind projects that would produce electricity for offsite use, increasing the allowable height of wind turbines, and reducing the required setbacks (increasing allowable density) for wind energy projects, the Amendments would likely have significant impacts on visual resources. Because wind turbines are generally located on or near ridgelines or in vast open areas, they tend to be extremely visible. For example, the existing Kumeyaay wind turbines on the Campo Reservation in San Diego County are visible from miles around, both during the daytime and at night (due to their blinking red

² Two of the biggest impediments to development of renewable energy sources are (1) lack of transmission infrastructure and (2) local and state permitting, which can be both restrictive and costly. Beck, Frederic and Eric Martinot, June 2004, "Renewable Energy Policies and Barriers, in Cutler J. Cleveland (Ed.), 2004, *Encyclopedia of Energy*, Vol. 5, pp. 365-83 (downloadable version available at http://martinot.info/Beck_Martinot_AP.pdf).

night lights and flashing bright white strobe lights). As such, particularly with the increase in the number, density, and height of wind energy projects that can be expected, the Amendments are likely to cause significant aesthetic impacts. This becomes even more apparent when considered alongside the burgeoning development of other energy projects in San Diego County and the nearby region, as discussed above. The combined impacts of existing projects, planned projects and the future projects that can be expected under the Amendments are likely to be cumulatively significant.

B. Impacts on Biological Resources

The Amendments would have many significant biological impacts that must be analyzed in the PEIR. For one, there are numerous threatened, endangered or special status species that inhabit eastern San Diego County lands proposed for energy development, including the Quino checkerspot butterfly and the Peninsular bighorn sheep. Both of these species have suitable, inhabited, and/or designated critical habitat that already overlaps with or is adjacent to existing and currently proposed energy project sites. When these current and future encroachments are considered alongside those that would likely be caused by projects approved under the Amendments, there is a high risk of substantial cumulative impact.

As a specific example of a potentially cumulatively significant impact to threatened and endangered species, the Peninsular bighorn sheep are already threatened with being cut off from their most important migration corridor due to the Sunrise Powerlink project and the proposed La Rumorosa wind projects and their associated transmission facilities. As currently planned, those projects would be located directly adjacent to (and perhaps overlap with) the Peninsular Ranges of Mexico, an area which the U.S. Fish and Wildlife Service views as “the *only* possible route for a natural connection with other bighorn sheep populations for the [distinct population segment of sheep] in the U.S.” 74 Fed. Reg. 17288, 17311 (2009) (emphasis added). By further impeding the sheep’s access to this genetically important route, projects approved under the Amendments would be contributing to a significant cumulative impact. Additionally, the Tule Wind project in the McCain Valley threatens to degrade bighorn sheep designated critical habitat as well as extensive occupied habitat in the area. These projects, combined with the projects that the Amendments will facilitate, will cumulatively and significantly affect bighorn sheep in ways that have not been studied in any environmental review.

Another likely significant impact of the Amendments is avian injury and mortality, including impacts on both special status birds (such as the California condor) and others (such as the golden eagle, which is protected by the Bald and Golden Eagle Protection Act and United States Fish and Wildlife Service’s (“FWS”) regulations thereunder, Federal Register 74:46836-46879, September 11, 2009). There is already clear evidence from the Altamont Pass area and

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elsewhere that wind turbines kill thousands of birds (as well as bats and other flying creatures) each year.³ Because projects approved under the Amendments would invariably contribute to them, the impacts of wind turbines, power lines and noise and light pollution from energy projects on flying creatures must be described and analyzed in the PEIR. Furthermore, in line with FWS' recent recommendations for wind energy projects, the County should add an additional amendment to the Ordinance requiring a minimum six-mile buffer between any proposed wind turbine and a golden eagle nest.⁴

The Amendments would also threaten the significant impact of habitat fragmentation. Habitat fragmentation is the breaking up of contiguous natural habitats into small patches that are isolated from intact areas of habitat. Through the construction, staging and building of access roads and structures, the energy developments approved under the Amendments, particularly the large projects that would produce energy for offsite use, would likely result in direct loss of habitat, division of the remaining habitat into isolated patches, and reduced size of habitat patches. These fragmentation impacts, when spread across a large area, are almost invariably accompanied by localized extirpation of species. Local species sensitive to the developed or altered edge and species that have large area requirements are among the first to disappear from habitat fragments, triggering cascading impacts to ecological communities. The fragmentation of habitats inhibits movement of species and disrupts necessary interactions among species. These adverse impacts decrease the viability of species in the area and degrade habitat value as species become more isolated in contained areas. These impacts must be fully analyzed in the PEIR.

Finally, it bears repetition that the potential for additional regulation by federal agencies such as the Forest Service and the Bureau of Land Management does not displace the County's vital regulatory authority and responsibility. *California Coastal Commission v. Granite Rock Co.*, *supra*, 480 U.S. at 579-593.

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³ Smallwood, Shawn K., 2008, "Bird Mortality in the Altamont Pass Wind Resource Area, California," *The Journal of Wildlife Management* 2008-00-00, 215-223; Klinkenborg, Verlyn, 2008, "Our Vanishing Night," *National Geographic* 214(5), 102-123 (discussing general impacts of light pollution on wildlife); Malakoff, D., 2001, "Faulty towers," *Audubon* 103(5), 78-83 (discussing the severe impacts, including death, of brightly lit tall buildings on migrating birds; similar impacts can be expected with illuminated wind turbines).

⁴ United States Fish and Wildlife Service, September 20, 2010, Letter to the Oregon Department of Energy re: Request for Comments on the Application for Site Certificate for the proposed Summit Ridge Wind Project, Wasco County, Oregon, p. 3 (attached to these comments as Exhibit 5).

C. Noise Impacts

As described below, there is substantial evidence that the secondary noise impacts of the Amendments would be significant. First, the Amendments set the maximum height of small wind turbines at 100 feet and require a minimum setback equal to the height of the turbine. While small wind projects are sometimes quieter, have fewer vibrational impacts and would thus require a lower setback than larger projects, it is also the case that some smaller turbines can be very noisy due to faster blade rotational speeds. As such, it is likely that small wind projects approved under the Amendments would have significant noise impacts on nearby residents, property owners and wildlife.

Second, there is substantial evidence that wind turbine noise causes both health and ecological impacts and thus that the County's 600 to 1,000 foot setback standard is insufficient. For example, based on her peer-reviewed research on the impacts of wind turbine noise, Dr. Nina Pierpont has identified a so-called "wind turbine syndrome" in people living near wind turbines, which is characterized by sleep problems, dizziness, headaches and other negative health symptoms.⁵ Relatedly, the Society for Wind Vigilance released an analysis supporting Dr. Pierpont's basic conclusions and criticizing the American/Canadian Wind Energy Association's Wind Turbine Sound and Health Effects report, which downplayed the health impacts of wind turbine noise.⁶ More recent studies also corroborate Dr. Pierpont's conclusions that wind turbine noise can cause substantial health impacts.⁷

To avoid the negative health impacts from wind turbines, Dr. Pierpont recommends setbacks from large wind projects of at least *1.25 miles*. A similar setback has been called for by the French National Academy of Medicine.⁸ In his report for the Academy, Claude-Henri Chouard writes:

⁵ Pierpont, Nina, 2009, *Wind Turbine Syndrome: A Report on a Natural Experiment*, K-Selected Books: Santa Fé, NM.

⁶ The Society for Wind Vigilance, January 2010, *Wind Industry Acknowledgment of Adverse Health Effects: An Analysis of the American/Canadian Wind Energy Association Sponsored "Wind Turbine Sound and Health Effects: An Expert Panel Review, December 2009*, available at http://www.windvigilance.com/awea_media.aspx.

⁷ See, e.g., Punch, Jerry, Richard James & Dan Pabst, 2010, "Wind-Turbine Noise: What Audiologists Should Know," *Audiology Today*, July/August 2010, pp. 20-31 (attached to these comments as Exhibit 1); see also Nissenbaum, Michael A., March 2009, *Mars Hill Wind Turbine Project Health Effects: Preliminary Findings*, presentation to the Maine Medical Association (attached to these comments as Exhibit 2).

⁸ Chouard, Claude-Henri, 2006, *Rapport: Le Retentissement du Fonctionnement des Éoliennes sur la Santé de l'Homme*

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The harmful effects of sound related to wind turbines are insufficiently assessed The sounds emitted by the blades being low frequency, which therefore travel easily and vary according to the wind, . . . constitute a permanent risk for the people exposed to them. . . . The Academy recommends halting wind turbine construction closer than 1.5 km from residences.⁹

In addition to the scientific evidence of health impacts from wind turbine noise, there is anecdotal evidence from residents of rural San Diego County that wind turbine noise impacts are significant. The Boulevard Planning Group's comments on the earlier solar and wind energy ordinance amendments, proposed in March 2010, state that in "Boulevard, off-reservation residents within several miles of the existing Kumeyaay Wind project complain of frequent noise and vibration impacts." Boulevard Planning Group's March 11, 2010 Comment Letter re: Solar Wind Energy Zoning Ordinance Amendment (POD 09-006) ("BPG Comments") (attached as Exhibit 3), p. 13. Another Boulevard resident was quoted in a KPBS news story as confirming that "[t]here is a noise problem and also there's a – what's called wind turbine syndrome. . . . You can hear noise 24 hours a day. It sounds like a large truck on the freeway that never goes away; it's just constant."¹⁰

In sum, there is substantial evidence that the Amendments would have potentially significant secondary noise impacts via the wind projects approved under its auspices. These impacts must be fully analyzed in the PEIR. And to reduce some of these impacts, Conservation Groups recommend (1) that the setback standard be increased, and (2) that noise level measurements be taken at the nearest property line, rather than the nearest residence.

D. Climate Change Impacts

While the County's IS concludes that the Amendments would have a less than significant impact on climate change (IS, pp. 30-33), the IS fails to even mention several significant sources of greenhouse gas emissions to which the Amendments will contribute. These sources must be fully analyzed in the PEIR.

First, there are fugitive emissions of SF₆ – a potent greenhouse gas with a global warming potential of 23,900. These would result from the operation of the transmission line equipment used for the projects that would likely be approved under the Amendments, as well as any associated substations. These SF₆ emissions would pose cumulatively significant impacts when combined with the emissions of the substantial existing and planned transmission-related infrastructure in and around San Diego County.

⁹ *Id.*

¹⁰ <http://www.kpbs.org/news/2010/jan/27/community-opposition-proposed-energy-projects/>

Additionally, recent studies show that undisturbed alkaline desert areas, such as the Mojave Desert, eastern San Diego County and western Imperial County, sequester carbon-dioxide in surprising quantities.¹¹ Any large-scale wind projects approved under the Amendments would disturb and open up vast stretches of currently untrammled desert lands to large-scale industrial development. These huge desert areas may do more good in reversing global warming if left alone than if they are fully developed into renewable energy generation facilities. This is particularly true where, as here, distributed photovoltaic energy production sited near the energy demand centers could eliminate or substantially reduce the need for the remote projects approved under the Amendments. A complete analysis of this indirect adverse impact of the Amendments, as well as the project-level and cumulative SF6 emissions impacts, must be conducted prior to the County's approval of the Amendments.

E. Wildfire and Emergency Response

Projects approved under the Amendments would likely increase fire risk and impede emergency response to a significant degree. And as such, these impacts must be fully analyzed in the PEIR. The magnitude of such risks is illustrated by the fire history in San Diego County. For example, San Diego Gas & Electric ("SDG&E") recently sought permission from the California Public Utilities Commission to turn off electrical power in the area of the ECO and Boulevard substations when fire dangers are high, a drastic measure from any perspective. If existing lines are so dangerous that SDG&E wants to shut off the power to thousands of people on windy days (potentially causing school shutdowns, disrupting emergency alert systems, and disabling hospital operations), the construction of even *more* energy projects, including any necessary substations and transmission lines, is very likely to have a significant impact on fire danger.

Furthermore, not only would the projects approved under the Amendments present fire hazards as new ignition sources, they would impede firefighters' efforts to combat wildfires. For example, any projects approved under the Amendments would require transmission and/or distribution lines that would create a substantial hazard for low-flying spotter and bomber aircraft that apply aerial retardant or water. It would be impossible to see those power lines in smoke filled canyons, and either pilots would be forced to risk their lives by flying when the lines are not clearly visible or aerial fire suppression would be stymied. Furthermore, in some cases the project-related transmission lines would need to be de-energized before firefighters could enter certain areas, giving the fire more time to spread.

¹¹ Stone, Richard, "Ecosystems: Have Desert Researchers Discovered a Hidden Loop in the Carbon Cycle," *Science*, vol. 320 (5882), June 13, 2008, *available at*: http://www.ecostudies.org/press/Schlesinger_Science_13_June_2008.pdf (attached to these comments as Exhibit 4).

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Clearly, the fire dangers presented by the Amendments and the projects that would be approved under them are significant and must be subjected to a full and accurate analysis in the PEIR.

F. Water Supply Impacts

_____ Compounding the fundamental problems caused by geographical, seasonal, and interannual disjunctions, California's water supplies have become increasingly strained by continued population increases, global warming's significant impairment of the state's ability to capture and store mountain runoff, and reduced allocations from the major water sources including the Colorado River and State Water Project. As a result, it is essential that land use planning and development in the state be conducted in conjunction with water supply planning, and that developments be disallowed where sufficiently certain water sources are not available to serve them.

Indeed, as the California Supreme Court has recognized, CEQA imposes such a duty. In *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* 40 Cal.4th 412, 431 (2007), the Court articulated four main principles related to analysis of water supplies: (1) EIRs "cannot simply ignore[] or assume[] a solution to the problem of supplying water to a proposed land use project;" (2) water supply analyses for large multi-phase projects cannot be limited to the first phase or first few years of development; (3) the water supplies relied on in an EIR must have a likelihood of actually becoming available – "speculative sources and unrealistic allocations ('paper water') are insufficient bases for decisionmaking under CEQA;" and (4) when, despite a full discussion, uncertainty remains regarding future water supplies, CEQA requires that the EIR acknowledge the uncertainty and discuss reasonably foreseeable replacement sources or alternatives.

In light of the constraints on the state's water supply and the *Vineyard* decision, it is surprising that the County's Initial Study barely discusses water supply at all. In total, the IS devotes less than a page to the issue, and even then only to groundwater supplies. While the County concludes that "[m]ost wind energy systems are not expected to use any groundwater for any purpose," its contention contradicts common wind energy production practices. Initial Study, p. 43. According to the American Wind Energy Association, a 1.5 MW turbine operating at a 100% capacity factor for a full year would require 13,140 gallons of water per year, meaning a 100-turbine wind farm could use upwards of *1,314,000 gallons per year*, which is nearly 4 acre-feet per year. See BPG Comments, p. 12. In such an arid area, this quantity of water use is quite substantial and would likely have significant water supply impacts, whether on local aquifers or distant surface water sources. Thus, in contrast to the County's conclusion in the IS that the water supply impact would be less than significant, the Amendments' water supply

impact is likely to be quite significant. As such, the County must fully analyze the Amendments' secondary water supply impacts in the PEIR.

**V. THE LANGUAGE OF THE ORDINANCE AND THE PROPOSED AMENDMENTS
THERETO SHOULD BE CLARIFIED AND THEIR PROVISIONS SHOULD BE
IMPROVED**

Before preparing the PEIR on the Amendments, the County should clarify the language of the Ordinance and the Amendments and improve some of their provisions. First, as to clarifications, the County should amend the Ordinance's stating that large wind turbine systems may be located on parcels of "at least five acres." Given the required setbacks for large wind systems, a 5 acre parcel would not even support one large wind turbine.

Second, there are many improvements that the County should make to the Amendments. As discussed, the County should increase the required setbacks for wind energy projects. In addition, it should take noise level measurements from the nearest property line instead of the nearest residence. Further, the County should create and add to the Ordinance a minimum required buffer between any proposed wind turbine and a golden eagle's nest of at least six miles, per FWS' aforementioned guidance.

Most importantly, however, the County should emphasize distributed generation over wind projects that produce energy for offsite use. The County should adopt a policy that ranks renewable energy projects in a manner that gives preference to or otherwise incentivizes distributed generation projects in urbanized areas that have substantial existing infrastructure to be served by the locally produced electricity. Large-scale energy projects intended to produce electricity for offsite use should be discouraged, particularly in areas of ecologically or otherwise valuable open space or agricultural areas.

Not only would distributed generation have fewer environmental, health, safety, public utilities and other impacts, it is eminently feasible, arguably cheaper and has the potential to produce significant amounts of energy. For example, the California Energy Commission has determined that there are up to 60,929 MW of potential rooftop, photovoltaic, distributed generation in the state, not including commercial parking lots.¹² In San Diego County alone there are an estimated 2,600 MW of potential photovoltaic capacity on existing structures and already disturbed lands.

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¹² Public Interest Energy Research Program, California Energy Commission, *Distributed Renewable Energy Assessment: Final Report*, August 11, 2009, pp. 10 and 43.

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VI. CONCLUSION

Conservation Groups commend San Diego County for deciding to prepare a full PEIR on the Amendments. Nonetheless, the preparation of an EIR in and of itself will not be enough to satisfy CEQA's requirements and ensure that the Wind Energy Ordinance is as environmentally beneficial as possible. The County must fully analyze the slew of significant impacts the Amendments would likely have, including those discussed in these scoping comments. And as part of its analysis, the County must account for the substantial number of other existing and proposed energy projects whose impacts are likely to combine with those of the projects approved under the Amendments to create cumulatively significant impacts. Furthermore, there are clarifications and improvements the County should make to the Amendments before preparing the PEIR, to both reduce the Amendments' environmental impacts and make the amended Ordinance more comprehensible.

Thank you for considering our comments on this important matter.

Respectfully submitted,

/s/ Stephan C. Volker

Stephan C. Volker
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LIST OF EXHIBITS

1. Punch, Jerry, Richard James & Dan Pabst, "Wind-Turbine Noise: What Audiologists Should Know," *Audiology Today*, July/August 2010, pp. 20-31.
2. Nissenbaum, Michael A., *Mars Hill Wind Turbine Project Health Effects: Preliminary Findings*, presentation to the Maine Medical Association, March 2009.
3. Boulevard Planning Group, Comment Letter re: Solar Wind Energy Zoning Ordinance Amendment (POD 09-006), March 11, 2010.
4. Stone, Richard, "Ecosystems: Have Desert Researchers Discovered a Hidden Loop in the Carbon Cycle," *Science*, vol. 320 (5882), June 13, 2008.
5. United States Fish and Wildlife Service, Letter to the Oregon Department of Energy re: Request for Comments on the Application for Site Certificate for the proposed Summit Ridge Wind Project, Wasco County, September 20, 2010.

