Comment Letter GG

Revised Comments

Wind Energy Ordinance & General Plan Amendment DEIR; POD 10-007, LOG NO. 09-00-003; SCH NO. 2010091030 & TULE WIND PROJECT; MUP 3300 09-019, GPA 3800 11-001, LOG NO. 09-021-002

Backcountry Against Dumps
P.O. Box 1275, Boulevard, CA 91905
AND
The Protect Our Communities Foundation
P.O. Box 305, Santa Ysabel, CA 92070

Revised and final version of comments dated December 30, 2011

We are putting San Diego County decision makers on actual and constructive notice

THE WAUBRA FOUNDATION'S Notice of Explicit Caution now warns turbine siting decision makers that they can be held liable. We hereby concur with, promote and serve such notice:

"The ... Foundation's continuing the current practice of siting turbines close to homes is to run the dangerous risk of breaching a fundamental duty of care, thus attracting grave liability," position, as the most technically informed entity in Australia upon the effects of wind turbines on human health, is this: Until the recommended studies are completed, developers and planning authorities will be negligent if human health is damaged as a result of their proceeding with, or allowing to proceed, further construction and approvals of turbines within 10km of homes.It is our advice that proceeding otherwise will result in serious harm to human health. We remind those in positions of responsibility for the engineering, investment and planning decisions about project and turbine siting that their primary responsibility is to ensure that developments cause no harm to adjacent residents; and, if there is possibility of any such harm, then the project should be re-engineered or cancelled.[1]

"The combination of fraudulent denial of serious health problems by wind developers and willing blindness on the part of bureaucrats and health officials is simply unacceptable, and it now leaves elected officials, bureaucrats, and wind developers open to serious legal consequences."[2,3]

"Science-based theory WELCOMES skeptical criticism, as it gives them an opportunity to consider other perspectives and to provide objective proof. Political-based theories REJECT skeptical criticism, as they do not want the fallacies of their agenda to be exposed."[4]

"...the issues of wind energy policy where it violates the basic living environment of families and the adverse health effects of wind turbine noise...there are many who dismiss anecdotal reports as inconsequential or meaningless, these reports are from real people, living with real problems, often with no recourse: they put 'the human face on science.' The authors also examine how this translates into a human rights issue, as government policy assigns more credibility to (wind industry) acousticians' reports than to medical evidence, and assigns more importance to renewable energy policy than to the individual lives injured by that policy..."[5]

"The reason the wind industry experts could claim that wind turbines produced insignificant levels of infra and low frequency sound is not because there isn't any, but instead, because the instruments/methods they used could not detect it. They went hunting for a needle in the haystack using a magnet when the needle was made out of plastic."[6]

[1] Explicit Cautionary Notice To Those Responsible for Wind Turbine Siting Decisions:
http://waubrafoundation.com.au/Y2NpZD0xImNhaWQ9MTMmYWlkPSZjcmM9MTQ0OTg1MiMyOA%3D%3D
[2] http://www.epaw.org/events.php?lang=en&article=uk3;
[3] http://www.epaw.org/documents/The_Sunday_Post_27Nov2011.pdf
[4] John Droz, Jr. physicist, http://www.slideshare.net/JohnDroz/energysb3presentationnclegislators
[5] Wind Turbines and proximity to homes: http://www.wind-watch.org/documents/wind-turbines-and-proximity-to-homes/
[6] http://docs.wind-watch.org/Bray-James-NC11-Abstract-76-final-5_20_2011-as-submitted-1.pdf

December 30, 2011

Matthew Schneider
Patrick Brown,
5201 Ruffin Road, Suite B
San Diego, CA 92123-1666

Wind Energy Ordinance & General Plan Amendment DEIR; POD 10-007, LOG NO. 09-00-003; SCH NO. 2010091030 & TULE WIND PROJECT; MUP 3300 09-019, GPA 3800 11-001, LOG NO. 09-021-002.

Dear Mr. Schneider & Mr. Brown:

These revised comments are submitted in place of the original comment document, dated December 30, 2011, and are made on behalf of the non-profit groups **Backcountry Against Dumps** and **The Protect Our Communities Foundation**, our members, and others. GG-1

Many will be adversely impacted by the proposed significant and cumulative changes and reduced protections as proposed in the Tule Wind GPA and Wind Energy Ordinance & Plan Amendment DEIR. Due to unforeseen circumstances far beyond the control of the assigned author, these comments are being submitted a few days late, however, they are being submitted prior to any public hearings or decisions by the County and therefore satisfy CEQA's exhaustion requirements. (See Pub. Res. Code § 21177; Galante Vineyards v. Monterey Peninsula Water) [submission of comments after close of comment period but before public hearings on project satisfies exhaustion requirements]. GG-2

These comments and previous comments filed by us and/or on our behalf for the joint PUC/BLM Tule Wind, ECO Substation, Energia Sierra Juarez Gen-Tie EIR/EIS,[7, 8, 9, 10] and MUP GPA, and the Wind Energy Ordinance POD 10-1007 and other related and cumulative impact energy and transmission projects, are incorporated in full by reference, along with all the additional documents referenced and cited within these comments, and should be applied to the projects listed above. We also incorporate by reference the current and previous comment letters on related projects submitted by the Boulevard Planning Group. Any errors or omissions are unintentional. GG-3

Please let us know if you require hard copies of the referenced documents to be produced in order to become part of the record. We intend to be prepared for litigation in the event it is deemed necessary to protect health, safety and welfare of people and other living things. GG-3

WE STRONGLY OPPOSE THE PROPOSED DRAFT EIR FOR THE WIND ENERGY ORDINANCE AND GENERAL PLAN AMENDMENT AND THE REDUCED SMALL AND LARGE TURBINE PROJECT ALTERNATIVES.[11] THEY REPRESENT AT LEAST 24 SIGNIFICANT ADVERSE IMPACTS THAT REPORTEDLY CANNOT BE MITIGATED BELOW A LEVEL OF SIGNIFICANCE--INCLUDING THE POTENTIAL UNNECESSARY TRANSFORMATION OF RURAL SAN DIEGO COMMUNITIES, HABITATS, AND ICONIC LANDSCAPES INTO INDUSTRIAL ENERGY SACRIFICE ZONES WITH INCREASED SOURCES OF WILD FIRE IGNITION AND RELATED RISK OF FUTURE CASTASTROPHIC FIRESTORMS, [12, 13] LOSS OF LIFE AND PROPERTY AND POTENTIAL TYPE CONVERSION. GG-4 GG-5 GG-6

[7] E-coustic solutions draft review of Tule Wind Noise studies and related material : http://www.cpuc.ca.gov/environment/info/dudek/ecosub/D%5C04ORG_03.04.11_E-Coustic%20(James,%20R).pdf
[8] Law Offices of S Volker: Tule Wind, ECO Sub, ESJ DEIR/EIS: http://www.cpuc.ca.gov/environment/info/dudek/ecosub/D%5C04ORG_03.04.11_Law%20Offices%20of%20Stephan%20Volker.pdf
[9] Law Offices of S Volker: Tule Wind MUP Proposed Plan Amend: http://www.windaction.org/documents/32554
[10] McCann Appraisal LLC: Property Value impacts Tule Wind ECO ESJ DEIR/EIS" http://www.sdcounty.ca.gov/dplu/docs/ZA/RealEstateImpactEval.pdf
[11] POD 10-007: http://www.sdcounty.ca.gov/dplu/ceqa/POD10007.html
[12] Flaming wind turbines: http://www.countryguardian.net/uelzenturbine%20with%20text.jpg
[13] http://www.10news.com/sdwildfires/index.html

Response to Comment Letter GG

Backcountry Against Dumps and The Protect Our Communities Foundation
Donna Tisdale
December 30, 2011

GG-1 This comment is introductory in nature. The County replaced the December 30th version of the commenter's letter with this one received on January 4, 2012 as requested. Since the commenter left the original date at the top, it is still noted as having been received on December 30, 2011.

GG-2 The County appreciates this comment and is responding to this comment letter although it was received after the close of public review.

GG-3 Since the County's Wind Energy Ordinance is one project pursuant to CEQA and is not combined with any other projects, the County is responding here only to the comments within this letter dated December 30, 2011 and revised January 4, 2012. The County also acknowledges the comments received during the NOP comment period, which were attached to the DEIR.

GG-4 The County acknowledges the commenter's opposition to the proposed project, the DEIR, and the reduced alternatives that were analyzed.

	GG-5 The County agrees that the DEIR identified 24 subject areas for which the project will have significant and unavoidable impacts even after all feasible mitigation is applied. **GG-6** The County does not agree that the project will result in any industrial zones since no changes are proposed to zoning maps. However, the County agrees that the DEIR identified potentially significant impacts to community character, biological resources, and hazards associated with wildland fires.

WE STRONGLY SUPPORT THE "NO PROJECT" ALTERNATIVE AS BEING THE MOST PROTECTIVE OF THE 807,904 ACRES[14] IMPACTED BY THE PROPOSED PROJECT AND THE 402,884[15] ACRES IMPACTED BY THE REDUCED PROJECT AND ALSO THE MOST PROTECTIVE OF THE RELATED RURAL COMMUNTIES, RESIDENTS, VISITORS, ECOREGIONS,[16] WIDE VARIETY OF RESOURCES,[17,18,19] SENSITIVE RESOURCES,[20,21,22,23] AND RELATED SOCIOECONOMIC CONDITIONS AND PROPERTY VALUES.[24,25,26]

GG-7

The most project-impacted areas are located in and around the communities of Alpine, Boulevard, Borrego Springs, Campo, Descanso, Jacumba, Julian, Pine Valley, Potrero, Ramona, Santa Ysabel, Warner Springs, Ocotillo Wells, and others. Many of these areas qualify as low-income and/or Environmental Justice communities that are located in High Fire Severity Zones.[27] Point-of-Use Residential scale wind turbines remain a viable alternative option without the proposed changes, but even small turbines can have adverse effects if the type of turbine is improperly designed, selected, operated and maintained or improperly or carelessly placed.[28]

GG-8

WE STRONGLY SUPPORT THE BOULEVARD PLANNING GROUP'S OPPOSITION TO THE PROPOSED PLAN AMENDMENTS AND REQUEST FOR A COUNTYWIDE MORATORIUM ON LARGE-SCALE INDUSTRIAL WIND TURBINE PROJECTS AND THE INITIATION OF LEGITIMATE INDEPENENT PEER-REVIEWED SCIENCE-BASED EPIDEMIOLOGICAL, FIELD, AND LABORATORY RESEARCH TO DETERMINE WHAT, IF ANY, SETBACKS[29] (FROM OPERATING WIND TURBINE PROJECTS) ARE ADEQUATE TO PROTECT PUBLIC HEALTH ,SAFETY AND WELFARE[30,31,32] IN ADDITION TO PROTECTING OTHER CRITICAL/SENSITIVE/VALUABLE RESOURCES FROM DIRECT, INDIRECT, AND CUMULATIVE PROJECT-RELATED EMISSIONS/IMPACTS/EFFECTS--INCLUDING ADVERSE SOCIOECONOMIC EFFECTS[33] RELATED TO UNJUSTIFIED AND UNSUPPORATABLE CONVERSION FROM RURAL OPEN AND SCENIC[34] TO HIGHLY INTRUSIVE INDUSTRIAL ENERGY GENERATION & TRANSMISSION ZONES.

GG-9

As the WAUBRA FOUNDATION'S EXPLICIT PRECAUTIONARY NOTICE TO THOSE MAKING WIND TURBINE SITING DECISIONS, SO CLEARLY STATES, the precautionary approach is fully warranted. San Diego County's rural residents and diverse at-risk resources, including those resources targeted for protection in the long-stalled Draft East County MSCP, and the Las Californias Binational Conservation Initiative, should not be used as unwilling lab rats in the ongoing experiment with the INTERMITTENT UNRELIABLE, VOLITILE, and

GG-10

[14] POD1007: Figure 1-4
[17] POD1007: 5.1-7 & Figure 4-1
[16] http://www.sdcounty.ca.gov/dplu/mscp/docs/east_mscp_ecoregions_8x11.pdf
[17] http://www.sdcounty.ca.gov/dplu/mscp/ec_species.html
[18] http://www.sdcounty.ca.gov/dplu/mscp/ec_biology.html
[19] http://www.sdcounty.ca.gov/dplu/mscp/docs/ECMSCP/East_County_Focal_Speceis_List.pdf
[20] Ostrander Tule ECO ESJ DEIR/EIS comments on wildlife impacts:
http://www.cpuc.ca.gov/environment/info/dudek/ecosub/Fr%5C06ND_02.28.11_Ostrander.%20Mark.pdf
[21] Bat deaths surprise researchers:
http://www.newwest.net/topic/article/at_montanas_biggest_wind_farm_bat_deaths_surprise_researchers/C41/L41/
[222] New Nesting Pair Golden Eagles found in McCain Valley: http://eastcountymagazine.org/taxonomy/term/505
[23] BLM East County RMP Critical Habitat Map
http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pdfs/elcentro_pdfs/esandiegoplan.Par.e7631351.File.dat/map%207%20-%20criticalhabitat8x11.pdf
[24] Wind Power/ Property Values: http://www.masterresource.org/category/windpower/property-values/
[25] McCann Appraisal LLC: Property Value impacts Tule Wind ECO ESJ DEIR/EIS" http://www.sdcounty.ca.gov/dplu/docs/ZA/RealEstateImpactEval.pdf
[26] http://acousticecology.org/wind/winddocs/property/McCann-Appraisal%20Info%20CVEC-2011-01-06.pdf.pdf
[27] http://www.nbcsandiego.com/news/local/Fire-Hazard-Zones-in-San-Diego-County--134781328.html;
http://frap.cdf.ca.gov/webdata/maps/san_diego/fhsz_map.37.pdf
[28] http://co2insanity.com/2011/06/12/broken-wind-turbine-blades-create-mountainous-waste-problem/#comments
[29] Explicit Cautionary Notice To Those Responsible for Wind Turbine Siting Decisions:
http://waubrafoundation.com.au/Y2NpZD0xJmNhaWQ9MTMyYWlkPSZpcmM9MTQ0OTk1MiMyOA%3D%3D
[30] A Summary of new Evidence: Adverse Health Effects and industrial wind turbines: http://www.epaw.org/documents.php?lang=en&article=ns25
[31] Comments from New York Farmer with 4 turbines:" I've been changed" http://www.windaction.org/stories/28942
[32] A plea from impacted turbine neighbor to Ontario Environment Minister: http://www.windaction.org/stories/19366
[33] Adverse health effects people, pets, livestock: http://docs.wind-watch.org/Bull-Sci-Technol-Soc-2011-Havas-027046761417852.pdf
[34] McCain Valley birding list and photos:
http://www.miriameasterlemon.com/Birding%20Pages/San%20Diego%20Birding%20Pages/By%20Site/McCain%20Valley.html

GG-7 The County acknowledges the commenter's support for the No Project Alternative. Please also see responses to comments K2, S3 and S4.

GG-8 The County acknowledges the information in this comment. Significant adverse effects from small wind turbines are analyzed in the DEIR.

GG-9 The comment requests a moratorium for large wind turbine projects and the initiation of new studies to evaluate revised setbacks for large wind turbines. This recommendation would conflict with the project objectives of the Wind Energy Ordinance. Nevertheless, the commenter can present this option to the County Board of Supervisors as an alternative during the hearing process. In addition, these comments will be included in the Final EIR and staff report to the decision makers. See also response to comment K3.

GG-10 Please see response to comment W3.

HIGH IMPACT LARGE-SCALE INDUSTRIAL WIND TURBINE PROJECTS.[35] Until legitimate and verifiable multidisciplinary science-based research has been conducted, large industrial wind turbines should not be sited in proximity to human habitation or other sensitive receptors or resources--especially in fire-prone areas. Impacted residents in the Boulevard area already know the down- and dark-side of wind turbine projects.

THE COUNTY OF SAN DIEGO AND EACH OF ITS POLICY AND DECISION MAKERS HAVE INDEPENDENT LEGAL, ETHICAL, MORAL, AND FIDUCIARY RESPONSIBILITIES TO VERIFY THE ALLEGED GREENHOUSE GAS REDUCTIONS[36] AND OTHER INDUSTRY-SUPPORTED MISREPRESENTATIONS OF THE SO-CALLED BENEFITS OF INDUSTRIAL WIND ENERGY, AS WELL AS THE NOW-DOCUMENTED AND FULLY-NOTICED SIGNICIFICANT ADVERSE EFFECTS TO PUBLIC HEALTH, SAFETY AND WELFARE,[37] WILDLIFE,[38] LIVESTOCK,[39,40] CULTURAL[41,42,43,44] AND BIOLOGICAL RESOURCES, FIRE,[45] AND THE SOCIOECONOMICS OF THE IMPACTED AREA--BEYOND THE BIASED AND SELF-SERVING INFORMATION BEING PROMOTED AND DENIED BY THE WIND INDUSTRY LOBBY, CO-OPTED MEDIA, AND/OR OTHER POLITICALLY BIASED GOVERNMENT AGENCIES OR INSTITUTIONS. THIS DEIR FALLS FAR SHORT IN ALL REGARDS AND MUST BE REVISED AND RECIRCULATED USING THE SCIENTIFIC METHOD, THE PRECAUTIONARY PRINCIPAL, AND GOOD OLD-FASHIONED RESEARCH, ETHICS, AND COMMON SENSE.

THE LINKED 19-PAGE U.S. FOREST SERVICE SUNRISE POWERLINK RECORD OF DECISION (ROD)[46] DOCUMENTS THE PROJECT-SPECIFIC LAND USE CHANGES AND CONFIRMS THAT THOSE CHANGES RESULT IN ADVERSE IMPACTS THAT CANNOT BE MITIGATED BELOW A LEVEL OF SIGNFICANCE TO VISUAL RESOURCES (SCENIC INTEGRITY), WILDFIRE AND BIOLOGICAL RESOURCES. THAT ROD ALSO CONFIRMS THAT RIDGELINE INSTALLATIONS CREATE GREATER INTERFERENCE WITH FIREFIGHTING ABILITIES. TOWERING WIND TURBINES ARE GENERALLY PURPOSED FOR INSTALLAION ON OR NEAR RIDGELINES. REGARDLESS, 400- TO 600-FOOT TALL TURBINES, AND ALL THEIR RELATED NEW POWERLINES, SUBSTATION, TRANSFORMERS AND INVERTERS, WILL INTRODUCE SIGNIFICANT ADDITIONAL FIRE IGNITION SOURCES AND INTERFERENCE WITH FIREFIGHTING CAPABILITIES.

THE AMERICAN WIND ENERGY ASSOCIATION (AWEA) ENVIRONMENTAL HEALTH AND SAFTEY SEMINMAR 2012 WAS HELD IN SAN DIEGO ON JANUARY 9: (Excerpt) "*As the wind industry evolves, so have the responsibilities of the environmental health and safety (EHS) professional. From reducing incidents and preventing accidents, to ensuring environmental compliance, EHS managers are facing new demands and challenges in an uncertain regulatory and standards environment…Join us for the AWEA Wind Environmental Health & Safety Seminar to deepen your understanding of the issues facing occupational, environmental, health and safety professionals in the wind industry and how others are solving issues to some of the industry's most important challenges.*"

GG-10

GG-11

GG-12

GG-13

GG-14

[35] Understanding the Limitations of Electricity from Wind Energy: http://docs.wind-watch.org/schleede-terms.PDF
[36] Global Warming: the scientific way: http://www.northnet.org/brumug/WindPower/GlobalWarmingPosition2.pdf
[37] The Wind Power Controversy; Nature & Society: pages 10-13: http://docs.wind-watch.org/Nature-Society-Nov-2011.pdf
[38] http://www.wboy.com/story.cfm?func=viewstory&storyid=111042

[39] http://www.windaction.org/stories/17324
[40] Racing stable plans scrapped over wind turbine fears: http://www.telegraph.co.uk/earth/earthnews/8982541/Jockey-Tony-McCoy-scraps-plans-for-racing-stable-over-fears-windfarm-will-spook-horses.html
[41] http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/C/03TRI_03.02.11_Manzanita%20and%20of%20the%20Kumeyaay%20Nation%20(Elliott).pdf
[42] http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/C/03TRI_03.03.11_Viejas%20(Pico,%20A).pdf
[43] Tribal objections over impacts to cultural resources and landscapes: page 16: : http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/C/03TRI_03.03.11_Campo%20and%20LaChappa.%20M1.pdf
[44] http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/Final_EIR/I.%20%20Public_Participation.pdf
[45] Firemen left red-faced after hose too short to extinguish wind turbine fire: http://financegreenwatch.org/?p=2739

[46] USFS Sunrise Powerlink ROD: http://regarchive.sdge.com/sunrisepowerlink/docs/ROD_SDGE_%20SpecialUse.pdf

GG-11 This comment does not raise a significant environmental issue relative to the DEIR for which a response is required.

GG-12 The County does not agree that the DEIR is insufficient. In conformance with CEQA, the DEIR evaluated the whole of the action and analyzed each environmental subject area with regard to potential adverse effects. It is not the function of the DEIR to evaluate the merits of the project or develop a recommendation for decision makers. Rather, the DEIR adequately discloses impacts, describes feasible mitigation, and provides comparative analyses for reduced alternatives.

GG-13 The County acknowledges this comment and referenced ROD. This information does not raise specific issues relative to the DEIR, and therefore no further response is provided.

GG-14 The County acknowledges this comment and referenced AWEA excerpt. This information is does not raise specific issues relative to the DEIR and, therefore, no further response is provided.

Despite the "Environmental Health and Safety" title, there is no mention of the AWEA SEMINAR 2012 organizers or participants seeking or sharing more information on how and/or why their WIND TURBINE PRODUCTS and operations are generating consistent, well-founded, and now, well-documented complaints of significant adverse health effects and other damages--globally! All we see is across-the-board denial that there is a problem--and now that denial is repeated by our own County with no empirical data to back up claims of safety. This needs to change and science-based standards applied to project proposals and approvals.

GG-15

GG-16

DEFINITION OF CONSTRUCTIVE FRAUD[47]

Under contract law, a defendant can be liable to a plaintiff for constructive fraud if there was: (1) a false misrepresentation, (2) in reference to a material fact, (3) for the purpose of inducing the other party to rely on such representation, 4) on which the other party did justifiably rely, (5) which resulted in damages or injury and (6) a fiduciary relationship between the parties. Hagarty v. Ithaca City School District, 423 N.Y.S. 2d 843 (1979). Bad intent or dishonesty is not a requirement to satisfy constructive fraud. The elements for actual and constructive fraud are the same with two exceptions: constructive fraud drops the element of scientific knowledge on the part of the injurer of the representation's falsity--and adds the element of a fiduciary relationship.

Definition from Nolo's Plain-English Law Dictionary: "*When the circumstances show that someone's actions give that person an unfair advantage over someone else by unfair means (lying or not telling a buyer about defects in a product, for example), the court may decide to treat the situation as if there was actual fraud even if all the technical elements of fraud have not been proven.*"

Here, it is our strong opinion that the industrial wind energy lobby and related representatives, supporters and/or promoters have, either wittingly or unwittingly, committed various forms of fraud (through carelessness, negligence, lack of empathy, greed or other forms of blind willfulness/disregard) by failing to thoroughly investigate or otherwise educate themselves on the validity of the alleged safety, performance, and product emissions/benefits claims that they continue to perpetuate through verbal and written means at public meetings, in the media, through the mail and over the Internet, in the pursuit of securing/signing various contractual agreements with landowners, government entities, public officials, community benefit and mitigation funding beneficiaries.

GG-17

Large industrial-scale wind turbines are now, and will continue to inflict harm and/or damages, either directly or indirectly. The repeated reports from both the willing and unwilling victims of this fraud are strikingly and hauntingly similar and cannot be brushed aside and marginalized any longer without redress.

WE BESEECH OUR COUNTY DECSIONMAKERS TO TAKE THE HIGH ROAD AND COME TO THE AIDE AND DEFENSE OF ITS RESIDENTS AND ITS AMAZING WEALTH OF RESOURCES--ESPECIALLY THOSE COMMUNITIES AND RESOURCES THAT ARE SLATED TO BE SO DISPROPORTIONATELY IMPACTED BY THE PROPOSED/REDUCED PROJECTS--RATHER THAN RUSHING TO KOWTOW TO AN INDUSTRY THAT IS AWASH IN GROSS MISREPRESENTATIONS, DECEIPT, UNDESERVED GLORY, AND TAX- AND RATE-PAYER-BASED FUNDING.

GG-18

The California Low Carbon Fuel Rule[48] recently blocked by a Federal Judge for being discriminatory to out of state fuel producers[49] was one of the first in the nation to include the "life cycle" and "carbon intensity" to determine the amount of greenhouse gases emitted during the production and transportation of the fuel. The very same "life cycle" should be required for large wind turbines that require tons of steel, concrete and rare earth minerals[50] that are reportedly currently monopolized by in China,[51] and resulting in some shocking impacts[52] to

GG-19

[47] http://www.law.cornell.edu/wex/constructive_fraud
[48] http://www.arb.ca.gov/fuels/lcfs/lcfs.htm
[49] http://www.nytimes.com/2011/12/30/us/judge-blocks-californias-low-carbon-fuel-standard.html
[50] http://www.dailymail.co.uk/home/moslive/article-1350811/In-China-true-cost-Britains-clean-green-wind-power-experiment-Pollution-disastrous-scale.html
[51] http://www.theatlantic.com/magazine/archive/2009/05/clean-energy-apos-s-dirty-little-secret/7377/
[52] http://www.dailymail.co.uk/home/moslive/article-1350811/In-China-true-cost-Britains-clean-green-wind-power-experiment-Pollution-disastrous-scale.html

GG-15 This comment takes issue with the AWEA seminar but does not raise environmental issues relative to the DEIR.

GG-16 This comment implies that the County has made claims regarding the safety of wind turbine projects. It is not clear what information this comment is referring to.

GG-17 Issues raised in this comment are not related to an environmental issue pursuant to CEQA.

GG-18 Ultimately, the Board of Supervisors must determine which project or alternative will be implemented. The information in this comment will be in the Final EIR for review and consideration by the County Board of Supervisors.

GG-19 The type of analysis discussed in this comment depends on the project-specific proposals for large wind turbine applications. If appropriate, such analysis may be conducted during environmental review of specific proposed wind energy projects.

local peasant farmers, their land and their livelihoods in Batou where toxic lakes have resulted, in addition to hundreds or thousands of water truck trips[53] to long-haul water to remote construction sites -- as has so obviously and controversially occurred for the Sunrise Powerlink construction,[54, 55] despite numerous claims and promises to the contrary. We witnessed a similar hoard of massive water tanker trucks running east and west during the recent resurfacing of I-8 in rural East County.[56]

GG-19 Cont.

DESTRUCTION FROM RARE EARTH MINING FOR TURBINE CONSTRUCTION

In China, the true cost of the "clean," "green" wind power experiment is documented in "Pollution on a disastrous scale,"[57] by SIMON PARRY in China and ED DOUGLAS in Scotland, created 7:32 p.m. on 26 January 2011:
"This toxic lake poisons Chinese farmers, their children and their land. It is what's left behind after making the magnets for Britain's latest wind turbines... and, as a special live investigation reveals, is merely one of a multitude of environmental sins committed in the name of our new green Jerusalem."

The lake of toxic waste at Baotou, China, which has been dumped by the rare earth processing plants in the background.

"On the outskirts of one of China's most polluted cities, an old farmer stares despairingly out across an immense lake of bubbling toxic waste covered in black dust. He remembers it as fields of wheat and corn. Yan Man Jia Hong is a dedicated Communist. At 74, he still believes in his revolutionary heroes, but he despises the young local officials and entrepreneurs who have let this happen. 'Chairman Mao was a hero and saved us,' he says. 'But these people only care about money. They have destroyed our lives.'

"Vast fortunes are being amassed here in Inner Mongolia; the region has more than 90 per cent of the world's legal reserves of rare earth metals, and specifically neodymium, the element needed to make the magnets in the most striking of green energy producers, wind turbines. Live has uncovered the distinctly dirty truth about the

GG-20

[53] http://www.30news.com/news/2954485?/detail.html
[54] http://www.utsandiego.com/news/2011/dec/05/sunrise-powerlink-water-use-put-perspective/
[55] http://groksurf.com/tag/sunrisepowerlink/
[56] Historic Route 80: http://www.aaroads.com/california/us-080_ca.html
[57] http://www.dailymail.co.uk/home/moslive/article-1350811/In-China-true-cost-Britains-clean-green-wind-power-experiment-Pollution-disastrous-scale.html

GG-20 County staff has reviewed the article provided in this comment regarding the adverse effects from neodymium mining in China. The County appreciates this information. It should be noted that this information does not result in any new significant environmental impacts, an increase in the severity of previously identified project impacts, or new feasible project alternatives or mitigation measures.

process used to extract neodymium: it has an appalling environmental impact that raises serious questions over the credibility of so-called green technology.

"The reality is that, as Britain flaunts its environmental credentials by speckling its coastlines and unspoiled moors and mountains with thousands of wind turbines, it is contributing to a vast man-made lake of poison in northern China. This is the deadly and sinister side of the massively profitable rare-earths industry that the 'green' companies profiting from the demand for wind turbines would prefer you knew nothing about.

"Hidden out of sight behind smoke-shrouded factory complexes in the city of Baotou, and patrolled by platoons of security guards, lies a five-mile wide 'tailing' lake. It has killed farmland for miles around, made thousands of people ill and put one of China's key waterways in jeopardy. This vast, hissing cauldron of chemicals is the dumping ground for seven million tons a year of mined rare earth after it has been doused in acid and chemicals and processed through red-hot furnaces to extract its components."

Villagers Su Bairen, 69, and Yan Man Jia Hong, 74, stands on the edge of the six-mile-wide toxic lake in Baotou, China that has devastated their farmland and ruined the health of the people in their community.

GG-20 Cont.

WIND DOES NOT REDUCE CARBON EMISSIONS -- AND SOMETIMES INCREASES THEM

Excerpt from "Wind Fails the Carbon Reduction Test[58]: *"Wind power's performance in reducing electricity system carbon emissions also gets low marks. In many regions, wind turbine owners have bid into the electricity market at below cost or even negative prices, often up to the value of the PTC. That forces coal plants to cycle during off-peak hours. In simple terms, the less-than-full-load operation of these coal plants results in less efficient operation, therefore producing more carbon emissions per MWh produced...The practical effect is little reduction in system wide carbon emissions with the introduction of wind energy."*

GG-21

The National Academy of Science (NAS), in a report published in early 2007, agrees. The authors of the "Environmental Effects of Wind Energy Projects,"[59] concluded that "*Wind power will thus not reduce carbon emissions; it will only slow the increase by a small amount.*" **Several subsequent independent studies have confirmed the NAS assessment.**

[58] http://www.nowemag.com/renewables/solar/Chart-a-New-Course_3955.html
[59] http://dels.nas.edu/Report/Environmental-Impacts-Wind-Energy-Projects/11935

GG-21 The County appreciates this information from various sources evaluating the benefits, or lack thereof, of renewable energy projects. There is disagreement among experts in analyzing the costs and benefits of renewable energy projects. The project objectives of the County's Wind Energy Ordinance are primarily based on State and federal goals. However, the County seeks to include the most up-to-date information for public disclosure and consideration by the decision makers. As such, this information will be included in the Final EIR for consideration by the County Board of Supervisors.

"Evaluation of Wind Power Avoided Emissions Benefits,"[60] by Thomas A Hewson Jr., Principal, Energy Ventures Analysis Inc., and David Pressman, Analyst, Energy Ventures Analysis Inc.: *"It is a common belief that new wind power generation will displace coal and natural gas-fueled power plants and thereby avoid all their associated greenhouse gas (GHG) emissions such as carbon dioxide ($C0_2$), nitrous oxide (NO_x) and sulfur dioxide (SO_2). These avoided emissions benefits have become a major factor in gaining public support for siting wind projects and providing large governmental subsidies to offset wind's higher power production costs.*

"Unfortunately, these environmental claims are built upon incorrect assumptions about how U.S. environmental regulations actually work and the type of generation a given new wind project will displace. Avoided air emissions benefits attributable to any given power project can be calculated as the simple difference in industry emissions between a designated project that is built (and) one that is not built.

"This simple calculation has been incorrectly done by several renewable project developers and their consultants. Their mistakes have led them to incorrectly claim that large projects avoid air emission benefits from building new wind facilities ... Any air pollutant subject to a cap and trade program (SO_2, NO_x and regional CO_2) may be displaced but not avoided. Emission levels will remain at capped levels with or without wind project development. With the eventual implementation of a federal cap-and-trade regulating $C0_2$ emissions appearing likely, wind power will likely offer no future incremental greenhouse gas emission reduction.

"As renewables are not yet competitive in the open markets with fossil fuels, all wind projects currently being built are to meet this special set-aside market demand. In these states, the proper comparison is not to look at wind vs. coal or gas, but wind generation vs. other qualified renewable technologies competing for this special set-aside market, including solar, biomass, geothermal, landfill gas and so on. If wind were not used, utilities, in an effort to meet RPS goals, would replace it with another qualifying renewable resource. For these markets, displaced emissions for a given wind project will be the net difference between the project emissions (zero) and other competing renewable project emissions (also zero iv). Therefore, no avoided air emission benefit exists if wind generation displaces another renewable project generation to meet a state (or future national) renewable portfolio standard.

"Finally, proponents who suggest that wind is able to entirely displace $C0_2$ overlook a fact fundamental to energy generation: wind's unpredictability means it is truly has no generating capacity value, and its construction will not displace building any new coal or natural gas generation capacity. Grid reserve margins require wind backup, and the inefficiency of quickly firing up a natural gas unit to meet erratic wind generation output means any emissions displacement is minimal. Wind is simply an additional capital cost—and one that proves to be more than twice as expensive for the ratepayer.

"In summary, any analysis of wind power's potential to displace fossil fuel generation must first correctly reflect current environmental regulations. Any air pollutant subject to a cap and trade program (SO_2, NO_x and regional CO_2) may be displaced but not avoided. Emission levels will remain at capped levels, with or without wind project development. With the eventual implementation of a federal cap-and-trade regulating $C0_2$ emissions appearing likely, wind power will likely offer no future incremental greenhouse gas emission reduction benefit.

"One must also distinguish between states with renewable portfolio standards and those states without them. Those competing in these special set-aside protected markets are competing against other renewable projects and not in the open market against lower-cost conventional power sources. In these states/regions, one must compare emissions between competing projects. In such closed markets the wind projects again can offer no incremental emissions benefits. Unfortunately, almost all of a wind project's avoided air benefit claims are overstated."

"High Cost and Low Value of Wind Energy,"[61,62] by Glenn Schleede (semi-retired after working 30 years in the energy industry). His linked 22-page piece reprinted in "Science and Public Policy Institute" on Feb 10, 2010

GG-21
Cont.

[60] http://www.northnet.org/brvenug/WindPower/Hewson.pdf
[61] http://www.masterresource.org/2011/04/wind-spin-awea/#more-14633

includes the following statement: "*...Local Government officials, mislead by wind farm developers and lured by potential short term benefits, are fracturing their communities, destroying homeowners property values, and ignoring long-term costs when they encourage or condone wind energy projects.*"

GG-21 Cont.

INADEQUACY AND INCOMPLETENESS OF ENVIRONMENTAL DOCUMENTS

The Tule Wind FEIR/EIS is inadequate under NEPA and CEQA with numerous project issues left unresolved with undisclosed or unfinished Golden Eagle studies, take permits, projects at a later date, valid ambient noise studies conducted by non-biased experts, unresolved Wind Energy Ordinance & Plan Amendment issues, significant and controversial and unresolved cultural resource issues, groundwater and floodplain impact issues, road and right-of-way issues, community benefit/mitigation issues for the most impacted community of Boulevard and more. New nesting Golden Eagles have been witnessed and reported in McCain Valley[63] that were reportedly not identified by the Tule Wind consultants.

GG-22

With more and more evidence that setbacks which have been used in the past, and are still promoted by vested interests, are not adequate, it is disturbing to see the significantly reduced setbacks proposed in the DEIR. Determination of the correct setback has to be driven by what is necessary to ensure safety, health and welfare, and not by the fact that someone wants to invest in wind energy.

GG-23

"Wind Turbines and Public Health"[64]: 7:12-minute video produced December 8, 2011 by the Waubra Foundation: This video includes compelling testimony from impacted turbine neighbors and others close to these issues. The interviews reflect similar impacts being experienced by neighbors of the Kumeyaay Wind turbines located on leased tribal land in Boulevard.

GG-24

The County's proposal to allow a 20-db increase over ambient rural noise levels, which average between 20 and 30 db, with an option to waive the newly proposed C weighted noise measurements are dangerously unconscionable and decision makers have now been placed on official notice that they can be held liable for harm caused by approving or implementing them. "*To ignore existing evidence by continuing the current practice of siting turbines close to homes is to run the dangerous risk of breaching a fundamental duty of care, thus attracting grave liability.*"[65]

GG-25

Independent INCE acoustician Rick James, Principal, E-Coustic Solutions, evaluated Iberdrola's Tule Wind[66] project noise studies and related materials AND RECOMMENDED REJECTION OF THE PROJECT DUE TO SIGNIFICANT IMPACT. From his 115-page professional evaluation with diagrams, graphs and charts:

GG-26

"*First, setbacks, from property lines to the nearest turbine of less than 2 kilometers (1.25 miles) are clearly inadequate for most quiet rural communities. The presence of nearby will not mask or otherwise offset the noise from wind turbines.[2] Wind turbine noise is distinctively annoying. The reports and documents submitted on behalf of the Project do not correctly or adequately describe the impact of the proposed project on the host community, or its residents whose homes and properties are close to the footprint of the project. This distance may seem extreme but is needed, based on the experiences of communities with other wind turbine projects. People living at distances up to 1 mile from wind turbines on flat land and, for turbines located on ridges above the homes at distances of up to 2 miles, are experiencing adverse health effects from sleep disturbance at night from audible turbine noise. Other aspects of wind turbine sound emissions, especially amplitude modulated infra and low frequency sounds*

GG-27

[62] http://www.masterresource.org/2011/04/wind-spin-awea/
[63] http://eastcountymagazine.org/taxonomy/term/3057
[64] Wind Turbines and Public Health: http://www.windaction.org/videos/33879
[65] Explicit Cautionary Notice To Those Responsible for Wind Turbine Siting Decisions: http://waubrafoundation.com.au/Y2NpZD0xJmNhaWQ9MTMzMjWlkPSZqcmM9MTQ0OTg1MiMyOA%3D%3D
[66] Rick James Tule Wind Review: http://www.cpuc.ca.gov/environment/info/dudek/ecosub/D%5CD40RG_03.04.11_E-Coustic%20James,%20RJ.pdf

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 10

GG-22 This comment addresses the Tule Wind project and does not raise issues with the proposed Wind Energy Ordinance project.

GG-23 This comment opposes the minimum setback proposed in the draft ordinance for large turbines as insufficient for safety and health. Please note that future large wind turbine projects will have to provide additional setback distances in order to address low frequency noise provisions. While there is no universally accepted setback distance for large wind turbine projects, the proposed standards for requiring setbacks that correlate with low frequency noise output are meant to ensure that there will be a reasonable distance between large turbine development and sensitive receptors.

GG-24 County staff has reviewed the video referenced in the comment. The County appreciates this information.

GG-25 This comment opposes the low frequency noise standards proposed in the draft ordinance. Please refer to response to comment Q2. It should be noted that the County is immune from liability for injury resulting from the issuance or approval of a permit. Gov. Code, section 818.4.

GG-26 This comment takes issues with the Tule wind project's siting of large turbines near homes. For clarification, the County is not proposing to site large

that may not be reach the threshold of audibility are currently believed to be caused by vestibular disturbances from rapid modulations of the infra and low frequency sound.

"Second, background sound levels submitted on behalf of the Project's developers and/or operators often include sounds of short term events and 'wind noise' are reported. The measurements used to collect this information do not meet any recognized national or international standard. Instead a novel procedure is substituted for recognized standard measurement procedures. The end result is a biased assessment of background sound levels that overstates the background sound levels of the community by as much as 10 to 15 dBA. Use of this data to evaluate the potential for negative impacts of the people living near the project as defined in the CEQA Guidelines leads to a conclusion that the wind turbine noise will not be a source of noise pollution at the homes and properties near the project. Had the background noise been properly measured the conclusion would be that the Project will have a significant impact on the adjacent communities and wilderness areas.

"Third, computer model estimates of operational sound levels from the proposed projects understate the impact of the turbines on the community.

"Fourth, information provided by representatives and experts for the Project, on the topic of health risks, infra and low frequency noise, noise limits and setbacks, background sounds in rural communities and computer modeling studies are incorrect, incomplete or otherwise misleading.

"The assertions that there is no research supporting a concern that wind turbine sound emissions at receiving properties and homes and cannot result in adverse health effects do not reflect current understanding of independent medical and acoustical research.

"Had the background studies met the procedural and protocol requirements of the American National Standards Institute's (ANSI) S12.9 and S12.18 standards for measuring environmental sounds outdoors the study would have reported much lower background sound levels. The Project would have a "significant impact" under the rules of the CEQA Guidelines (Appendix G (VII)). Had the modeling properly addressed the increased sound power emitted by wind turbines from atmospheric conditions, rough downwind topography from the large boulders and outcroppings on the sides of the ridges, and small inter-turbine spacing, the dBA and dBC sound levels predicted for the sensitive receiving locations would have been much higher. These conditions include those of:

- *nighttime atmosphere with a stable boundary layer (temperature inversion) and high wind shear above that boundary layer (e. g. high wind shear),*
- *periods of atmospheric turbulence, as is likely for turbines mounted on high locations with rough terrain, and*
- *inter-turbine wake-induced turbulence created when turbines are located in rows with interturbine spacing of less than 5 to 7 rotor diameters (new information indicates this may need to be more like 10 to 15 rotor diameters) to prevent inter-turbine wake turbulence. Turbines in the current layout are as close as 3 rotor diameters or less.*

"The specific CEQA rules that define when an impact is significant that would not be met if the background noise study and computer modeling had been conducted according to the practices identified in this report are:

- *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies*
- *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

"The combination of the above negative factors in the reports prepared as submittals regarding the Project's wind turbine noise emissions/pollution will result in sleep disturbance for a significant fraction of those who live within a mile away. Chronic sleep disturbance results in serious health effects. For a smaller portion of the community, there will be a risk of the adverse health effects currently described as Wind Turbine Syndrome mediated through the body's organs of balance (vestibular) and proprioception. This is a different set of symptoms and causes than

GG-27 Cont.

turbine projects near homes, but is updating the regulations pertaining to future large turbine projects. Any application for a large turbine project will have to undergo its own separate site specific environmental review.

GG-27 This comment addresses the Tule Wind project and does not raise issues with the proposed Wind Energy Ordinance project.

what would be expected of higher levels of infra and low frequency sound and is not related to the audibility of the ILFN.

"The reports and other documents provided by the developers of the Project focus on the adverse health effects that occur when the sound pressure level of the noise source exceeds the Threshold of Perception. The adverse health effects of concern are not related to this set of health effects. They are a result of modulated infra and low frequency sounds at levels below the threshold of audibility. The result of these technical flaws, along with an outdated understanding of how the human body responds to acoustical energy below the threshold of perception leads to a conclusion that if the Project, as proposed, is approved, it will, with a high degree of certainty, have negative noise impacts that are "significant."

"I have reviewed the Applicant's Environmental Document, Section 3.12 Noise, and the Tule Wind Project Draft Noise Analysis Report prepared for Iberdrola by HDR Engineering of Minneapolis, Minnesota. I have also had the opportunity to review similar documents prepared for other wind turbine projects by HDR and other acoustical consulting groups that work for the wind turbine project developers. My experience with industrial wind projects leads me to conclude that wind turbine utilities that produce sound levels at the properties and homes of people adjacent or within the Project will exceed the 40 dBA (L(night-outside) limit provided by the World Health Organization (WHO) for safe and healthful sleep. It will result in a high level of community complaints of noise pollution, sleep disturbance, and nuisance.

"In addition, there is mounting evidence that, for the more sensitive members of the community--especially children under six--people with pre-existing medical conditions, particularly those with diseases of the vestibular system and other organs of balance and proprioception, and seniors with existing sleep problems will be likely to experience serious health risks. The review will address a number of topics. Those topics include:

- *Discussion of terms and standards,*
- *Discussion of weather and its effect on turbines*
- *Discussion of spacing and its effects on turbine noise*
- *San Diego County CNEL of 45 requires that one hour Leq to be 37.7. A limit of 40 dBA Leq outside a home (per WHO for nighttime noise) would just slightly exceed the CENL of 45 limit.*
- *An Overview summarizing deficiencies in the Draft Noise Analysis Report (October 2010) by HDR Engineering Inc, Minneapolis, MN. (referred to as "HDR")*
- *Description of wind turbine noise as a source of environmental noise exposure and noise pollution for humans*
- *Specific issues with the Noise Analysis Report produced regarding the Project*
- *Evidence that the Project noise will exceed the permitted levels,*
- *Comments on the potential risks to health and welfare of persons living near the footprint of the Project specifically regarding wind turbine noise.*

"During the summer of 2009, this reviewer conducted a study of homes in Ontario where people had reported adverse health effects that they associated with the operation of wind turbines in their communities. The study involved collecting sound level data at the homes and properties of these people, many of who had abandoned their homes due to their problems. This study found that sound levels in the 1/3-octave bands below 20 Hz were often above 60 dB and in many cases above 70 dB. Since the shape of the spectrum for wind turbine sound emissions is greatest at the blade passage frequency, which was below the threshold for the instruments used, it can be assumed that the sound pressure levels in the range of 0 to 10 Hz exceeded 70 dBA. Given the statement by Dr.Salt that vestibular responses would start at levels of 60 dBG or higher, this data supports the Salt, Alec, "Responses of the ear to low frequency sounds, infrasound and wind turbines." Hearing Research, 2010.

"This work was supported by research grant RO1 DC01368 from NIDCD/NIH James, R. R., "Comments Related to EBR-010-6708 and -010-6516" Comment ID 123842, 2009 hypothesis that there is a link between the dynamically modulated infra sound produced by wind turbines and reported adverse health effects. Adverse health affects related to inaudible low frequency and infra sound have been encountered before. Acoustical engineers in

GG-27 Cont.

the Heating, Cooling and Air Conditioning (ASHRAE) field have suspected since the 1980s, and confirmed in the late 1990s, that dynamically modulated, but inaudible, low frequency sound from poor HVAC designs or installations can cause a host of symptoms in workers in large open offices.[33]

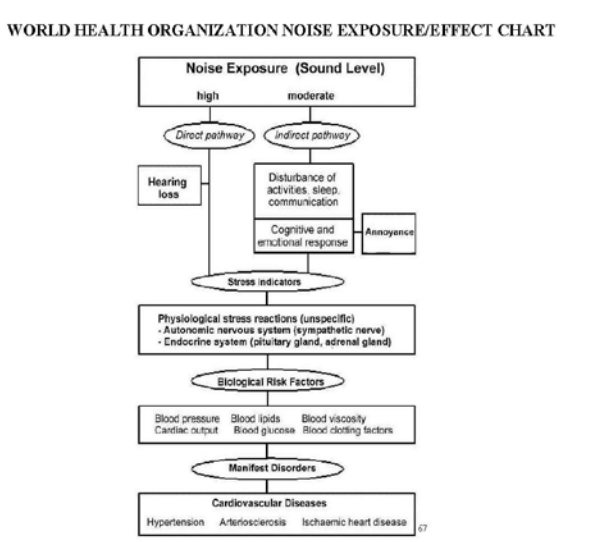
"The ASHRAE handbook devotes considerable attention to the design of systems to avoid these problems and has developed methods to rate building interiors (RC Mark II) to assess them for these low frequency problems. The report on Ontario by this reviewer includes an Appendix that provides more detail on this aspect of how inaudible infra and low frequency sound can cause adverse health effects. When infra and low frequency sound is in the less audible or inaudible range, it is often felt, rather than heard. Unlike the A-weighted component, the low-frequency component of wind turbine noise "can penetrate the home's walls and roof with very little low frequency noise reduction.[33]" Further, as discussed in the 1990 NASA study the inside of homes receiving this energy can resonate and cause an increase of the low frequency energy over and above what was outside the home. Acoustic modeling for low frequency sound emissions of ten 2.5 MW turbines indicated "that the one mile low frequency results are only 6.3 dB below the 1,000-foot one turbine example."[26] This makes the infra- and low-frequency sound emissions from wind turbines a potential problem over an even larger area than the audible sounds, such as blade swish and other wind turbine noises in the mid to high frequency range.

"The acoustical consultant that does not practice in this field may not be as aware of the problems of amplitude modulated, in-audible low frequency sound identified by the ASHRAE engineers. Many have not integrated these new understandings of how infra and low frequency sound can affect the vestibular organs into their work on community noise. These levels were only a few years ago considered too low to cause any physical response. Today, there is a renewed interest in these effects.

"A paper titled "Infrasound, The Hidden Annoyance of Industrial Wind Turbines," by Prof. Claude Renard of the Naval College and Military School of the Fleet in France concludes: "The information given above is enough to understand that it is better not to be exposed to infrasound which propagates far from its point of origin and against which it is impossible to protect oneself, due to the long wavelengths. "Those most affected by exposure to infrasound are rural inhabitants living in proximity to wind turbines, and those working in air-conditioned offices. "The people in the former category are exposed to the infrasound 24 hours a day, whereas people in the latter category are only exposed to infrasound 6 hours a day. "The most important issue is therefore to know what intensity of infrasound can be tolerated without inconvenience over these periods of time. "We do not have the answer to this question."

"This project should be rejected based on the concerns raised in this report. There may be other arrangements of turbines that might be compatible with the community and current land use. However, this current arrangement, with inter turbine spacing of less than three rotor diameters, hard dense reflective ground surfaces, desert heating and cooling cycles being likely to create stable nighttime atmospheric conditions, and the rough terrain which will increase the in-flow turbulence all result in increased noise levels for residents and visitors. In the opinion of this reviewer the Project will result in the exposure of persons to or generation of noise levels in excess of standards established in the San Diego County noise ordinance, and also exceed the WHO 2009 nighttime guidelines setting 40 dBA (Leq) at night as the threshold for adverse health effects. It will also result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. The Project, as currently proposed should be rejected."

GG-27
Cont.



The New South Wales Government proposed new rules following controversial rural wind farms, which angered residents over noise and raised claims the vibrations cause stress and illness. Under the proposals, turbines will be subject to a noise limit of 35 decibels, five decibels less than in the state of Victoria, which has similar guidelines.

"**Overwhelming evidence that wind turbines cause serious health problems in nearby residents,**"[68] published by Carl V. Phillips Populi Health Institute states: "*Proponents of turbines have sought to deny these problems by making a collection of contradictory claims, including that the evidence does not "count," the outcomes are not "real" diseases, the outcomes are the victims' own fault, and that acoustical models cannot explain why there are health problems so the problems must not exist. ...Moreover, though the failure of models to explain the observed problems does not deny the problems, it does mean that we do not know what, other than kilometers of distance, could sufficiently mitigate the effects... There has been no policy analysis that justifies imposing these effects on local residents...The attempts to deny the evidence cannot be seen as honest scientific disagreement and represent either gross incompetence or intentional bias.*"

Wind turbine generated noise/infrasound/vibration-induced sleep fragmentation results in disruption of circadian rhythm/biological clock, which causes related adverse health effects[69]: Wind turbines have been well documented as a culprit in disrupting the sleep of impacted neighbors. Suffering from sleep disruption/fragmented

[67] World Health Organization 2009 Peer-Reviewed Noise/health impact chart
[68] http://bnt.sagepub.com/content/31/4/303
[69] http://www.signonsandiego.com/news/2011/sep/29/talk-finds-gone-helps-wake-people/

GG-28

GG-29

GG-30

GG-31

GG-28 This comment appears to be a flowchart provided by the World Health Organization in association with its 2009 nighttime guidelines. However, County staff could not find this chart within any of the references. The information in this flowchart is not inconsistent with the existing content of the DEIR (see Section 2.8 regarding noise).

GG-29 The County appreciates this information and has reviewed the December 2011 documents from New South Wales. Though not a regulation, the New South Wales government prepared the following guideline for new wind farm projects:

"For a new wind farm development, the predicted equivalent noise level (Leq, 10 minute), adjusted for any excessive levels of tonality, amplitude modulation or low frequency, but including all other normal wind farm characteristics, should not exceed 35dB(A) or the background noise (L90) by more than 5dB(A), whichever is the greater, at all relevant receivers not associated with the wind farm, for wind speed from cut-in to rated power of the WTG and each integer wind speed in between."

The County has prepared a different method for regulating wind turbine noise as discussed in Section 2.8 of the DEIR.

	GG-30 Please see response to comment F1. **GG-31** These issues regarding the effects of wind turbine noise are not inconsistent with the existing content the DEIR and are addressed throughout DEIR Section 2.8.1.

sleep pattern is more than a mere annoyance--it poses a very real threat to the health, safety, and well being of humans and other living things. A recent article reported that scientists at the Salk Institute in La Jolla have discovered a gene that helps people wake up much in the way that a key turns on the engine of a car, unmasking an aspect of circadian rhythm that's important in human health.

Biologist Satchidananda Panda and his postdoctoral associate Luciano DiTacchio learned that the gene, a molecule called JARID1a, activates the period gene, a basic component of people's biological clocks. "*It's like an ignition in a car; it turns things on,*" said Panda, whose findings will be published today in the journal Science: "*A properly functioning circadian clock is essential to life and longevity. Panda says that figuring out how the circadian genes are activated could lead to better treatments, or a basic "tune up" of the biological clock, which could help improve human health...A lot of the genes involved in the biological clock are also involved in diabetes, regulation of the cardiovascular system and even cancer," Panda said. "We need to find out more about what's happening at the cellular level to better treat disorders in a number of biological areas.*""

"**Wind Turbine Noise,**"[70] **by John P. Harrison** states "*...the problem of adverse health effects of turbine noise is discussed. This is attributed to the characteristics of turbine noise and deficiencies in the regulation of this noise. Wind turbines, turbine noise, onshore and offshore noise propagation, noise regulation, turbulence ambient corresponds to a sound three times as loud as the ambient, well above the 3 dBA detectable.*

"*At a minimum, the noise limit needs to be reduced to 35 dBA at nighttime and, where applicable, reduced to 40 dBA for daytime. This is still intrusive in rural areas but will help bring setbacks to those recommended by health authorities. A penalty of 5 dBA needs to be added to the time-average predicted noise levels to compensate for the enhanced audibility of the amplitude-modulated and impulsive character of turbine noise. Uncertainty in design calculations is the norm in engineering practice.*

"*For the wind developers, erring on the side of caution could protect their very large investments when testing for compliance does become the norm. A great deal is known about the excess noise due to turbulent inflow. Wind energy developers need to make test tower measurements of local natural turbulence and make calculations of wake turbulence to predict this excess noise. Compliance is not so difficult. It is common practice to check for compliance in all manner of industrial situations. This should be no different.*

"*Atkinson & Rapley Consulting (2011), in association with Astute Engineering in New Zealand has developed a fully automatic environmental noise measurement system, which is in service in New Zealand for compliance testing of wind turbine noise. Compliance testing is vital because it leads to reconsideration of noise prediction calculations. Where noise audits have been done, such as that at a home near Shelburne in Ontario, turbine noise well in excess of the noise limit has been demonstrated. In such cases, the wind energy company pays compensation or buys out the homeowner. No iterative use is made of the audit.*

"*With the above changes to the regulation of noise, a 35 dBA nighttime noise limit, penalties of 5 dBA for the periodic or impulsive character of turbine noise, 4 dBA for uncertainty in noise prediction, and a penalty for turbulent inflow noise, the setback from homes will approach the 1.5 to 2 kilometers recommended by health authorities.*"

***Reconciliation between regulation and adverse health effects**: There IS a problem. Noise regulation in the range 40 to 50 dBA allows turbines to be placed within 500 meters of homes and other sensitive receptors. Subsequently, in a significant fraction of such homes, residents are being annoyed, suffering sleep deprivation and disturbance, and in many cases, are suffering adverse health effects. Yet for other noise sources the limit appears reasonable. We now know that turbine noise has characteristics that contribute to this situation. We also know that there are factors not considered when applying the noise regulations. Finally, there is a reluctance to test for compliance. One can understand the reluctance; each turbine costs about $5 million to put in place, and unlike industrial machinery, there is no possibility of shielding the noise at source.*

[70] http://www.windcows.com/files/Wind_Turbine_Noise_Harrison.pdf

GG-31 Cont.

GG-32

GG-33

GG-34

GG-35

GG-36

GG-32 The County appreciates this information. Since the comment does not identify deficiencies in the DEIR, no further response is required.

GG-33 These issues regarding the effects of wind turbine noise are not inconsistent with the existing content the DEIR and are addressed throughout DEIR Section 2.8.1.

GG-34 The County appreciates this information. Based on similar research, the County has developed a noise level limit for low frequency noise as described in Section 2.8 of the DEIR and included in the proposed Wind Energy Ordinance. See also response to comment Q2.

GG-35 The issues raised in this comment are not inconsistent with the content of the DEIR. Please refer to DEIR Section 2.8.1.

GG-36 To ensure compliance with the County's noise limits for large wind turbines, the draft Wind Energy Ordinance includes compliance review provisions which will require Major Use Permits for large turbine(s) to be conditioned to require a compliance report to the County once every two years. The compliance report shall describe any complaints filed with the County during the previous two year period and all corrective actions taken if the use was found to be out of compliance with the requirements of Section

	6952 of the (County Zoning Ordinance) and/or the applicable noise related Major Use Permit conditions. As a result of this review, the Director will determine that the use is in compliance with the requirements of this section and the applicable noise related Major Use Permit conditions or that the Major Use Permit shall be subject to review by the Planning Commission. If the Planning Commission finds that the use no longer complies with the requirements of section 6952 and/or the applicable noise related conditions of the Major Use Permit, the Planning Commission may initiate modification or revocation of the permit in accordance with section 7382.c.

Nevertheless, regulation without compliance testing is unethical. The characteristics of turbine noise that contribute to annoyance and sleep disturbance are as follows: The sound from turbines is amplitude-modulated at the blade passage frequency. The modulation level is typically 3 to 5 dBA (van den Berg, 2005) but higher levels have been measured (Moorhouse, Hayes, von Hunerbein, Piper, & Adams, 2007). Two things arise: The peak sound is higher than the average used for noise regulation and the modulation enhances the audibility of the sound to such an extent that the turbine noise can be detected, even when the sound is below ambient (Hanning, 2010).

The noise emitted by a turbine is broadband, but at a distance of 500 meters and more, the atmosphere has absorbed the higher frequencies so that it is predominantly low-frequency noise that reaches a receptor. This low-frequency noise enhances annoyance and is more readily able to penetrate walls and resonate inside rooms. Many people report a thumping, rumbling, or impulsive character to the turbine noise (e.g., Frey & Hadden, 2007; Harry, 2007); the reason is not clear.

***Deficiencies with present noise regulation:** As noted above, the character of turbine noise makes it especially intrusive. This is exacerbated by the fact that wind turbines are sited in rural areas where the ambient noise level can be about 25 dBA. An intrusion of 15 dBA is too large. Germany has a nighttime noise limit of 35 Dba and this should be the international absolute maximum. Also as noted above, the standard algorithm for predicting noise at a receptor is ISO-9613-2. But, this was never designed for turbine noise. The ISO manual is specific in limiting its use to noise sources close to the ground such as "road or rail traffic, industrial noise sources, construction activities, and many other ground-based noise sources.*

Turbine noise derives from blades rotating, typically, between 35 to 125 meters above ground level. When used without compliance, testing the results of the predictions have little meaning. The authors of noise prediction algorithms appreciate that there is uncertainty in the calculations. For instance, the manual for ISO 9613-2 puts the uncertainty at □}3 dBA for a source to receptor distance in the range 100 to 1,000 meters. The turbine makers know that there is variability in manufacture; this is put at □}1 or □}2 dBA. Combining these, the predictions can be no better than □}4 dBA. This uncertainty is ignored by the wind energy developers and by the regulatory authorities. This is despite the fact that the final siting plans are signed off by professional engineers and approved by professional engineers."

TURBINES CAUSE SIGNIFICANT LOSS OF PROPERTY VALUES

Michael McCann / McCann Appraisal LLC issued his professional opinion that the turbines will cause significant property value loss[71] after visiting the Boulevard/Jacumba/La Posta area in January 2010, and reviewing the DEIR/EIS for the ECO Substation, Tule Wind and Energia Sierra Juarez Gen-tie line: *"Briefly stated, based upon my review of the proposed Project facilities, the Project does not comply with the County of San Diego Zoning Ordinance requirements for a MUP, as it is not compatible with adjacent and nearby residential uses and will have a harmful effect on the desirable character of the neighborhood. The Project will cause substantial diminution and injury to property values in the area, averaging approximately 25% as far as 2 to 3 miles, and with approximately 5% value loss from the nearest turbines out to as far as 5 miles. The basis for my professional opinions are described and summarized herein.*

"Further, the HVTL infrastructure and substation facilities will cause varying levels of value impairment, separate and apart from the impact of industrial scale (400-500 foot) turbines. Also, in my opinion, the EIR/EIS is deficient with regard to addressing property value impacts, and identifies no measures to mitigate against value losses in the surrounding area, particularly for residential property. In the event that the Project is approved, it should be conditioned upon implementation of a Property Value Guarantee (PVG). From a property value perspective, and to mirror the criteria of the EIR/EIS, implementation of a PVG that leaves property owners economically "whole" would Change a Class I impact to a Class II. A Class III level of mitigation is not possible, as marketing times will

[71] McCann Appraisal LLC 3-11: http://www.sdcounty.ca.gov/dplu/docs/7A/RealEstateImpactEval.pdf

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 16

GG-36 Cont.

GG-37

GG-38

GG-39

GG-40

GG-41

GG-37 The issues raised in this comment are not inconsistent with the content of the DEIR. Please refer to DEIR Section 2.8.1.

GG-38 The issues raised in this comment are not inconsistent with the content of the DEIR. Please refer to DEIR Section 2.8.1.

GG-39 The County has conducted specific research on low frequency noise generated by wind turbines, as discussed in Section 2.8 of the DEIR. Based on the County's research, a measured difference of more than 20 dB between the wind turbine low frequency sound (dBC) and background sound (dBA) is the threshold for a significant impact related to noise. Therefore, the County has included provisions within the Wind Energy Ordinance based on this threshold. The comment provides a different method for regulating noise. Disagreement among experts does not result in an inadequate EIR (CEQA Guidelines §15151).

GG-40 See response to comment GG39 above.

GG-41 This comment raises the issue of large wind turbine impacts on property values. It should be noted that social and economic effects need not be considered in an EIR (see CEQA Guidelines sections 15064(e) and 15131). In addition, it should be noted that the County is not proposing placement of large wind turbines. The proposed Wind Energy Ordinance establishes

	provisions for permitting large wind turbines in the future under the Major Use Permit process. For any such application, stakeholders will have the opportunity to provide comments and testimony related to environmental or economic impacts.

still be impaired for properties with the most visible impairment of vistas and/or an increase in noise levels (audible and low frequency) beyond the level of "noticeable" to "nuisance," or equivalent terms.

"Finally, the reasonably foreseeable projects cited in the caption of this consulting report and described herein will cause a disproportionate and cumulative adverse impact on Boulevard, surrounding rural residential property, and the general Project area.

"The combined effect will be to surround and "blight" these residential uses and residents, and significantly expand the area of value impairment from the ECO / Boulevard Substation, Tule Wind and Energia Sierra Juarez (ESJ) Gen-tie line Project. My specialized and unique experience with utility scale wind energy developments, as well as 30 years of real estate, land use evaluation and appraisal background has enabled and qualified me to evaluate whether the proposed Project meets the criteria described in the San Diego County Zoning Ordinance, the overall issue of economic impact, from a real estate and land use perspective, and the methodology that is appropriate for measuring property value damages from disamenities or environmental impairment. My research continues, and I reserve the right to supplement my opinions at a later date, as may be warranted if the Project proceeds, testimony at hearing and/or in litigation becomes necessary. Other records considered in developing my opinions are retained in my work file for future reference."

GG-41 Cont.

Mr. McCann is not alone is his findings of wind turbine-related adverse impacts to property values and our groups and others have previously provided them at various opportunities. We fully incorporate those references again here.

"**Wind farms, residential property values, and rubber rulers,**"[72] **February 16, 2010 by Albert R. Wilson**. Albert R. Wilson is principal of A. R. Wilson LLC, based in Woodland Park, Colorado. Wilson has evaluated the financial impacts of environmental and other risks on business and real property values for more than 25 years, and has taught and written extensively about these impacts on the appraisal, legal, banking and governmental communities. In summary, real estate appraisal experts are challenging the scientific credibility and accuracy of a recent U.S. Department of Energy ('DOE') report on the effect of wind power projects on property values. Albert R. Wilson's new paper asserts that well-known flaws in the methodology used in the study raise serious questions concerning the credibility of the results, and the DOE report's authors failed to follow well-developed and tested standards for performing regression analyses on property sales. His paper can be accessed by clicking on the footnote link. He states:

1. I recently examined a document published by the Department of Energy's Lawrence Berkeley National Laboratory titled "The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis" (hereafter "Report"). I express no opinion concerning the impact of wind power projects on residential property values and instead focus on the underlying methods used in the development of the Report, and the resulting serious questions concerning the credibility of the results.

GG-42

2. As stated in the title the primary bases for the conclusions drawn in the Report are hedonic analyses of residential real estate sales data. A hedonic analysis in turn is based on the assumption that the coefficients of certain explanatory variables in a regression represent accurately the marginal contribution of those variables to the sale price of a property.

3. While I have other issues with the Report and again reiterate that I have no opinion on the influence of wind farms on residential sales prices, the concerns I have addressed here lead to the conclusion that the Report should not be given serious consideration for any policy purpose. The underlying analytical methods cannot be shown to be reliable or accurate.

4. The reasons for the conclusion discussed here may be summarized as:

[72] http://www.windaction.org/documents/25681

GG-42 The County appreciates this information. Please refer to response to comment GG41 above.

1) Lack of access to the underlying data prevents the independent validation of the data, replication of the analysis, testing of alternative analyses, or testing of the conclusions against the real market.

2) The peer review process used for both the literature and the Report can only determine the acceptability of the papers for publication. It cannot reveal the validity, accuracy or reliability of the work behind the papers.

3) Given the peer review conducted, the fact that no published and recognized standards for the development of an accurate and reliable regression on sales price were used render the Report of highly uncertain value for any purpose.

4) The exclusive use of a test of statistical significance only indicates that the coefficients for Distance and View variables are not conclusive. What we do not know is what those coefficients actually represent. Only tests of economic significance would provide an answer, and none has been conducted.

5) Low explanatory power, 13% less than an acceptable minimum for an accurate regression on sales price.

5. Since human stress causes health problems, the stress of "taking of property values and use options" without due process from the neighbors of wind turbine projects and infrastructure must be considered.

6. With evidence that wind turbine neighbors do lose options for future use of their property when setbacks are inadequate, they also lose real value.

7. Lost options potentially include not being able to build a residence, sell the land for residential or other sensitive development, or even build their own turbine if so desired.

8. Inadequate setbacks can, in fact, represent the "taking of property without due process."

9. Setbacks should be established to protect safety and health of both the participating and non-participating residents without ambiguity, and the property values of the non-participating neighbors.

10. Setbacks should be determined for each wind structure to meet standards for maximum allowable sound levels and shadow flickering and to provide safe distances from ice shedding and structural failure or turbine blade breakage and throw-off."

GG-42
Cont.

The aforementioned blade breakage is amply illustrated in the stunning photos below. These were taken of recent wind turbine failure and resulting spectacular fire with flying flaming debris during a high wind event in Scotland. Such events raise alarms for rural residents facing a proliferation of large-scale wind turbine projects and more power lines, such as those that sparked numerous recent fire storms, billions in damages, increased fire insurance and utility rates and huge lawsuits.[73] It also highlights the results of limited access to fire protection services.

GG-43

[73] Court petition: Utility responsible for fire insurance http://www.signonsandiego.com/news/2011/dec/30/court-petition-utility-not-customers-responsible-w/
[74] Turbine Fire http://www.dailymail.co.uk/news/article-2071633/UK-weather-Wind-turbine-EXPLODES-hurricane-force-gusts-batter-Northern-Britain.html

GG-43 The County agrees with the concerns expressed in this comment. Fire protection plans and specific safety measures will be required for all future large wind turbine projects. See additional discussion in DEIR Section 2.6.

The two photos below show Infigen's 25 2MW Kumeyaay Wind turbines located, on leased Campo tribal lands, in close proximity to private residences along Ribbonwood Road in the McCain Valley area of Boulevard. Numerous tribal homes are in even closer and more dangerous proximity.
(2 photos below taken by D. Tisdale in 2011)

GG-44

GG-44 This comment illustrates existing conditions in the Boulevard Community where turbines were placed on Campo tribal lands. While the County addressed potential cumulative impacts in the DEIR, including those projects on Campo tribal lands, future individual large turbine permits will also have to conduct cumulative impact analyses and avoid or mitigate so as not to exacerbate existing adverse effects.

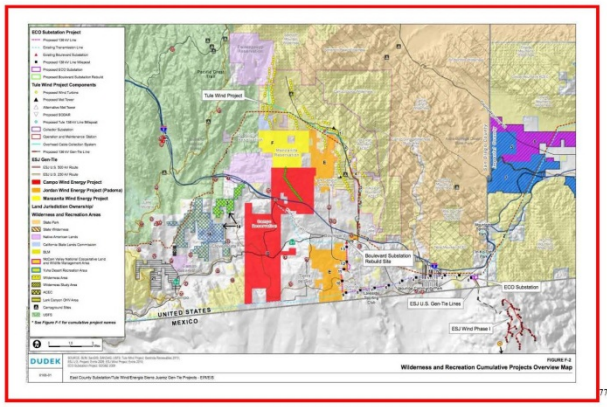
EXISTING LOCAL IMPACTS ARE DOCUMENTED AND LOCAL COMMULNITIES WILL BE INESCAPABLY SURROUNDED

Several hundred more turbines are in various stages of planning on tribal, BLM, State, Forest and private lands in the immediate and surrounding areas that will virtually encircle these rural homes and those of adjacent tribal members. Many of these impacted residents are already suffering from living near Infigen's 25 Gamesa 2MW turbines at Kumeyaay Wind.

Infigen is the subject of noise violations documented at its Capital Wind[75] project in Australia--where neighbors have registered similar complaints of adverse health effects since the turbines were installed near their homes and started operations.

Relief from the turbine-related stress and illness is rare unless the wind is still, the turbines are down for repair, as the Kumeyaay turbines were for several months after the yet-to-be-explained 2009 catastrophic failure[76] or the residents leave their impacted home and neighborhood long enough to get some rest and respite. Some actually abandon their homes due to adverse effects and lack of resolution to the problems

The Cumulative Impact Projects Map below, from the joint PUC/BLM ECO Substation, Tule Wind and Energia Sierra Juarez DEIR/EIS, dated late 2010, shows just some of the now-proposed industrial wind and transmission projects concentrated in southeastern San Diego, Western Imperial County and Northern Baja. It is now outdated, and does not show any of the industrial scale solar projects proposed throughout the Backcountry.



[77]

The proliferation of wind turbine substations also raises concerns with increased risk of transformer fires that can quickly spread and take days to extinguish. Transformer fires can also leak transformer oil into the soil,

[75] Peer Reviewed Acoustic Assessment of wind turbine noise: http://www.wind-watch.org/documents/
[76] What happened at the (Kumeyaay) Wind Farm?: http://eastcountymagazine.org/node/2734
[77] Wilderness and Recreation Cumulative impact projects Overview Map Figure F-2: ECO Substation, Tule Wind, ESJ/DEIR/EIS

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 21

GG-45
GG-46
GG-47
GG-48
GG-49

GG-45 This comment is not relevant to the project except as it relates to the cumulative impact analysis in the DEIR. The County has included all past, present and reasonably foreseeable future projects in its cumulative analysis. Table 1-4d has also been updated since receipt of this comment.

GG-46 See response to comment F1, W3 and GG36.

GG-47 This comment provides information about existing conditions in the Boulevard Community. While this comment does not identify deficiencies in the DEIR, the County appreciates this information and will include it in the documents presented to the decision makers for the project.

GG-48 The County concurs with this comment and is in receipt of the map shown.

GG-49 These are considerations that will be taken into account when specific large turbine projects are proposed in the County's jurisdiction. A proposed large wind turbine project would undergo site specific environmental review that would analyze these potential impacts and, if they are potentially significant, provide mitigation measures. In addition the Major Use Permit for a specific large wind turbine project would include conditions to address fire safety and hazardous materials.

groundwater and wells, causing contamination such as what occurred at the Maple Ridge Wind Farm[78] in 2009 with a similar fire in 2007. SDG&E had a substation fire in Escondido in December 2010 that took two days to put out.

Iberdrola Renewables is the co-owner of the Maple Ridge Wind Farm and developer of the Tule Wind project proposed in Boulevard.[79]

The photo below is from the short documentary film,[80] one of eight "They're Not Green" documentaries by Nettie Pena, all of which are incorporated by reference. The photo illustrates a turbine collapse that killed a worker. The film itself documents worker deaths in **PPM/Iberdrola** turbine collapse, violations, citations, broken promises to hire local labor and the new concrete bases for PPM/Iberdrola's 45 new turbines in Palm Springs generated 11,250,000 lbs CO_2 emissions when constructed in 2008.

[81]

GG-49 Cont.

GG-50

DEIR APPENDIX A: PROPOSED ZONING ORDINANCE CHANGES POD10-007: NOISE

Instead of the unconscionable and likely unlawful proposed noise waiver option, full spectrum noise and vibration measurements, limits, restrictions, and strict binding enforcement should be mandatory for all large wind turbine projects regardless of where they are proposed or installed-- including the ability to levy fines and penalties, cease and desist orders, and to permanently shut down offending turbines in order to protect people, livestock, wildlife and the overall environment.

GG-51

Pre-construction ambient levels need to be properly conducted, documented, monitored, and adequately mitigated at adjacent properties, homes, livestock pens, wildlife habitat, by independent unbiased, qualified third-party professionals.

GG-52

Post-construction testing monitoring and enforcement must be conducted to prevent unnecessary harm, suffering, damages, and liabilities for the County, the developer, and the host landowner.

GG-53

The proposed setback reductions pose an unjustified threat to public health and safety, as documented in this and other comment letters, and the growing body of evidence being produced--NOT BY INDUSTRY OR

GG-54

[78] Maple Ridge Wind substation fires: http://pandorasboxofrocks.blogspot.com/2009/10/watertown-daily-times-wind-farm.html
[79] http://www.horizonwind.com/projects/whatwevedone/mapleridge/
[80] http://web.me.com/thrnotgreen/thrnotgreen/Episode_8.html
[81] PPM/Iberdrola turbine collapse/ The Oregonian: http://web.me.com/thrnotgreen/thrnotgreen/Episode_8.html

GG-50 The County acknowledges the information in this comment. Please also refer to responses to comments GG41, GG43, GG47, and GG49 above.

GG-51 The recommendations in this comment would be infeasible as discussed in Section 2.8.6 of the DEIR.

GG-52 Qualified County acoustical experts will evaluate the methodology, analysis and proposed mitigation in the noise reports prepared for all future large wind turbine projects. Preferred methodology will be established in County guidelines for acoustical reports.

GG-53 See response to comment GG36.

GG-54 The County does not agree with this comment. See responses to comments F1, J12, J13, J18, Q3, and DD16.

RESPONSIBLE GOVERNMENT AGENCIES, but by desperate, impacted turbine neighbors providing evidence of what industry has repeatedly denied and by various professionals and clinicians that are seeking to help expose the harm from wind turbine project emissions and to help stop the suffering, often without pay.

GG-54 Cont.

"Responses of the Ear to Infrasound and Wind Turbines,"[82] published by Cochlear Fluids Research Laboratory, Washington University, St. Louis; Alec Salt Ph.D., Revised August 30, 2010: *"Our recently published paper reviews well-established publications about low frequency hearing by leading scientists in the field of auditory physiology. It concludes that low frequency sounds that you cannot hear DO affect the inner ear. The commonly held belief that "if you can't hear it, it can't affect you" is incorrect.*

"The paper shows how the outer hair cells of the cochlea are stimulated by very low frequency sounds at up to 40 dB below the level that is heard. It shows that there are many possible ways that low frequency sounds may influence the ear at levels that are totally unrelated to hearing sensitivity. As some structures of the ear respond to low frequency sound at levels below those that are heard, the practice of A-weighting sound measurements grossly underestimates the possible influence of these sounds on the ear.

"Studies that focus on measurements in the "audio frequency range" (i.e. excluding infrasound) will not provide a valid representation of how wind turbine noise affects the ear. The high infrasound component of wind turbine noise may account for high annoyance ratings, sleep disturbance and reduced quality of life for those living near wind turbines."

Dr Alex Salt: October 2010[83] **"Wind turbines generate infrasound–but your ears don't tell your brain":** The linked Powerpoint has excellent information and graphics on how the human ear and body react alarmingly to infrasound. What you don't hear CAN hurt you!

GG-55

The July 2010 "Noise Impact Assessment Report for the Waubra Wind Farm" (Dean Report)[84] **concluded**: "*From the information presented, that Mr. Dean has been and is currently adversely affected by the presence and activity of the Waubra wind farm. The effects stated by Mr. Dean as affecting his health and statutory declarations from his family and residents in the vicinity of the wind farm attest to adverse health effects. Adverse health effects such as sleep disturbance, anxiety, stress and headaches are, in my view, a health nuisance and are objectionable and unreasonable.*

"Evidence: The evidence presented in the Chapters to this Report has been submitted as expert evidence to different wind farm hearings; Turitea (Board of Inquiry, New Zealand); Berrybank, Mortlake, Stockyard Hill and Moorabool (Panel Hearings, Victoria); as well as being part of submissions for other parties in New Zealand, New South Wales and Victoria. At no time has the evidence been significantly challenged or rebutted by the wind farm applicant, the consultants or the legal practitioners employed by the applicant(s). Some evidential detail has changed between hearings; critique from earlier hearings has been addressed in subsequent evidence.

"This report is the final in the Victorian evidential series. In summary, it appears that the individual developers and their advocates have chosen to take the stance that the New Zealand wind farm standard NZS6808 (either the 1998 or 2010 versions) is both adequate and acceptable. For reasons stated in this Report this stance is neither valid nor credible."

"**Dynamic measurements of wind turbine acoustic signals, employing sound quality engineering methods considering the time and frequency sensitivities of human perception,**"[85] presented at NOISE-CON 2011, Portland, Oregon, July 25-27, 2011Wade Bray HEAD Acoustics, Inc. Brighton, Mich., Richard James E-Coustic Solutions Okemos, Mich.: *"The reason the wind industry experts could claim that wind turbines produced insignificant levels of infra and low frequency sound is not because there isn't any, but instead, because the*

[82] Alec Salt PhD Response of the Ear to Infrasound and Wind Turbines: http://oto2.wustl.edu/cochlea/windmill.html
[83] http://energizevermont.org/wp-content/uploads/2010/11/WTPicton_salt_final.pdf
[84] http://docs.wind-watch.org/Dean-Waubra-Noise-Impact-July-20101.pdf
[85] http://www.wind-watch.org/documents/dynamic-measurements-of-wind-turbine-acoustic-signals/

GG-55 The issues raised in this comment are not inconsistent with the existing content of the DEIR. The County agrees that low frequency noise generation should be limited, which is why low frequency noise provisions were included in the draft Wind Energy Ordinance.

instruments/methods they used could not detect it. They went hunting for a needle in the haystack using a magnet when the needle was made out of plastic. When analyzed using a tool that can detect it, we find that it is there and at SPL's much higher than previously considered likely... This study shows that, when analyzed according to the time response of the human transducer, the peaks of the energy waves can be above 90 dB SPL. Combined with the findings of Dr. Salt's research this analysis shows that the dynamically modulated infrasound can be perceived by the auditory system at levels that are below the conventionally determined threshold of audibility. It is the short duration and extent of the change in sound pressure that is stimulating the vestibular system, not the overall energy level. This is not about the average energy but instead about the short duration, peak values and extent of change in energy assuming that some lower threshold like Dr. Salt's 60 dBG for OHC activity has been reached."

"Mitigating the Acoustic Impacts of Modern Technologies: Acoustic, Health, and Psychosocial Factors Informing Wind Farm Placement"[86]: *"Wind turbine noise is annoying and has been linked to increased levels of psychological distress, stress, difficulty falling asleep, and sleep interruption. For these reasons, there is a need for competently designed noise standards to safeguard community health and well-being. The authors identify key considerations for the development of wind turbine noise standards, which emphasize a more social and humanistic approach to the assessment of new energy technologies in society."*

A recent editorial concludes that the use of the CADNA/A noise model, and the ISO 9613-2 standard, understates real-world operational sound levels and is likely the root cause of a noise problem at the Iberdrola Renewable's Hardscrabble Wind facility[87]-- and that Iberdrola knew better because the model was never validated for wind turbine noise: *"...results suggest that utility-scale wind energy generation is not without adverse health impacts on nearby residents. Thus, nations undertaking large-scale deployment of wind turbines need to consider the impact of noise on the HRQOL of exposed individuals. Along with others [30], we conclude that night-time wind turbine noise limits should be set conservatively to minimize harm, and, on the basis of our data, suggest that setback distances needs to be greater than two kilometers."*[88]

IBERDROLA IS THE TULE WIND DEVELOPER THAT IS PROPOSING TO INSTALL 3MW TURBINES LESS THAN 1,000 FEET FROM HOMES, LIVESTOCK, THE LARK CANYON OHV PARK, 2 CAMPGROUNDS AND THROUGHOUT THE MCCAIN VALLEY RECREATION AND CONSERVATION AREA.

From testimony of Mark J. Cool, FAA flight controller and impacted turbine neighbor, to his town board: *"Affording a citizen's right to his or her personal health should have no confines or price tag. This vital issue should be judged with the universal conscience of basic community decency, and must be examined with only true and accurate health effect facts."*[89]

"French Scientist creates Wind Turbine Syndrome," is a film review by Calvin Luther, PhD, who follows the wind industry closely: *"The following video... gives you an appreciation for why people get seriously sick when they're around wind turbines. The video is a dramatization of work done in France in the 1960s by an electrical engineer named Vladimir Gavreau, who stumbled upon "infrasound" in his laboratory, and once he recognized its formidable properties for causing debilitating illness, began developing an "infrasound" weapon for military use. (It's unclear how far Gavreau's "weapon" progressed, in terms of further development and use. Yes, it's well known that infrasound is used as a weapon; what's unclear to me is how much of the current technology was pioneered by Gavreau.) Be that as it may, notice the symptoms experienced by Gavreau and his assistants. Their symptoms are the result of vestibular dys-regulation—the saccule and utricle (inner ear organs of balance, motion, and position "sense") sending misinformation to the brain. A phenomenon described perfectly and explained pathophysiologically half a century later by Dr. Pierpont in her book, "Wind Turbine Syndrome: A report on a natural experiment. "Luckily," wrote Gavreau in his journal, "we were able to turn it off quickly. All*

[86] http://www.wind-watch.org/documents/mitigating-the-acoustic-impacts-of-modern-technologies-acoustic-health-and-psychosocial-factors-informing-wind-farm-placement/ ; http://docs.wind-watch.org/Bull-Sci-Technol-Soc-2011-Shepherd-027046761141784 1.pdf
[87] Source: http://www.windaction.org/faqs/33327
[88] http://www.windaction.org/faqs/33327
[89] Mark J Cool testimony: http://www.windaction.org/stories/33678

GG-55 Cont.

GG-56

GG-57

GG-58

GG-59

GG-56 The County has a different method for evaluating and regulating low frequency wind turbine noise under this project. See also response to comment GG39.

GG-57 This comment is not relevant to the proposed Wind Energy Ordinance or DEIR.

GG-58 The quotation in this comment does not identify deficiencies in the DEIR. The County has evaluated project issues related to health and safety in the DEIR pursuant to CEQA.

GG-59 The County appreciates the information in this comment regarding infrasound/low frequency noise effects. The County agrees that low frequency noise generation should be limited, which is why low frequency noise provisions were included in the draft Wind Energy Ordinance.

of us were sick for hours. Everything in us was vibrating: stomach, heart, lungs. All the people in the other laboratories were sick, too. They were very angry with us."[90]

From "The Sonic Weapon of Vladimir Gavreau"[91] **published in 1996 in the journal Borderlands**: *"The most fundamental signals which permeate this world are inaudible. They not only surpass our hearing, but they undergird our being. Natural infrasounds rumble through experience daily. There manifestations are fortunately infrequent and incoherent. Infrasound is inaudible to human hearing, being of pitch below 15 cycles per second. The bottom human limit. The plinth. The foundation. Infrasound is not heard, it is felt. Infrasound holds a terrible secret in its silent roar. Infrasound produces varied physiological sensations, which begin as vague "irritations." At certain pitch, infrasound produces physical pressure. At specific low intensity, fear and disorientation. Nazi propaganda engineers methodically used infrasound to stir up the hostilities of crowds who were gathered to hear their madman. The results are historical nightmares. At a very specific pitch, infrasound explodes matter. At others, infrasound incapacitates and kills. Organisms rupture in its blast. Sea creatures use this power to stun and kill prey. The swelling bass tones of the cathedral seem as though they can burst the very pillars that uphold the ancient vaults. Stained glass windows have been known to erupt in a shower of colored fragments from the organ's basso profunda. Impulsed ultra bass tones…thunder. Somewhere in the almost inaudible roll of these basement sounds there was a devastating and fearful power."*

"**Turbines declared a Nasty Neighbor"**[92]**: Homes were vacated and bought out by wind company after neighbors complained of becoming ill after turbine operations started at Waubra Australia in 2009**: *"They make you suffer so that you just want to get out of there. They know that it gets to you emotionally and physically." Mr. Deans refuses to sell his property because he does not want future generations to suffer like his family. He only returns to the farm when he has to--about once a fortnight--and says every time he does he gets head pain within five minutes that takes up to 10 days to go away. Doctors' certificates seen by the Sunday Herald Sun back his claims. "Once (the vibrations) get inside the house it bounces off the walls and makes you feel sick," Mr. Dean said. "If you're exposed to it outside it goes into your inner ear and affects your balance. It's put tinnitus in my ears which stops me sleeping." He has met the company to discuss his concerns, but said they would only take statements, not answer his questions. "I said 'I don't want you to buy me out. I want you to fix the problem'," he said. "It's hell on Earth living out there. That's what it is… And there's nothing we can do about it. It's a bloody terrible thing… It's knocked us around. We're in limbo. We've lost two years of our life and we don't know where it will end. I've put nearly 40 years into that place. It's prime property that I was going to pass down to my son. What am I going to do? I can't work there without being ill."*

"The Lie Behind Wind Turbine Noise Models"[93] shows Tule Wind developer Iberdrola involved again: *"The first post-construction sound study in Herkimer revealed noise levels reaching 60 to 65 decibels, nearly 20 decibels above what was predicted for homes in the area. Iberdrola's Paul Copleman told the press the excessive noise levels were largely due to the wind rustling leaves and cannot be "attributable to the wind farm."*

"Use of a model that understates real-world operational sound levels is very likely the root cause of the problem at the Hardscrabble facility. Acoustic experts who work for the wind industry, including Iberdrola, are well aware of the limitations of the ISO modeling. They are well aware that the standard is intended for ground-based sound sources and has never been validated for predicting wind turbine noise.

"They also know that literature on turbine noise dating back nearly a decade has shown that these models underestimate wind turbine noise levels. But here in the U.S., wind industry acousticians still use the CADNA/A tool without qualification. Herkimer County residents are now suffering the consequences. And as stated above, the explanation is simple. Herkimer County residents were lied to. Acousticians hired by the wind industry insist the ISO standard is an appropriate method for modeling wind turbine sound provided the correct input parameters are used. But what they do not admit is that the ISO 9613-2 standard, on which CADNA/A is based, was never

GG-59

GG-60 Cont.

[90] http://www.windturbinesyndrome.com/news/2011/french-scientist-creates-wind-turbine-syndrome/
[91] http://journal.borderlands.com/1996/the-sonic-weapon-of-vladimir-gavreau/
[92] http://www.heraldsun.com.au/news/victoria/turbines-declared-a-nasty-neighbour/story-e6frf7kx-1225996775637
[93] http://www.windaction.org/faqs/33327

GG-60 See responses to comments GG39 and GG59.

validated for wind turbine noise. In fact, the standard is mainly applicable to situations concerning road or rail traffic, industrial noise sources, construction activities, and many ground-based noise sources. It does not apply to sound from aircraft in flight, to blast waves from mining, military, or other similar operations. And it was not designed to predict turbine noise.

"The ISO Standard limits use of its methods to quantify noise sources that are close to the ground (approximately 30 meter difference between the source and receiver height) and within 1 kilometer of the receiving location. A wind turbine with a hub height of 80+ meters exceeds the ISO height limit by 50 meters.

"Meteorological conditions are also limited to wind speeds of approximately 1 meter/second and 5 meters/second when measured at a height of 3 meters to 11 meters above the ground. Only when all of these constraints are met by the situation being modeled can the predicted noise levels be assumed to be accurate within a +/- 3 dB range. The constraints placed on the ISO standard having to do with wind speed, direction and weather conditions indicate just how limited the models are for anything other than simple weather conditions -- NOT the types of conditions that wind turbines need to operate. The way sound spreads outdoors can be affected by temperature differences in different layers of the wind that cause sound waves to bend up or down at the boundaries just like water bends light. If a noise source is above a boundary then sound that would have gone down to the ground surface might bend up and dissipate. If the noise source is below a boundary layer then sound that might have dissipated upwards is bent down and added to the sounds that would normally be directed downwards. The current science of meteorology does not have precise ways to know what is happening right near any particular turbine."

Heinrich A. Metzen of DataKustik GmbH[3], maker of CADNA/A confirmed this fact in an email where he stated: "*Long range propagation including atmospheric refraction is not part of the standards used for (normal, "standard") noise calculations. It is known that atmospheric refraction may cause sound to be refracted downwards again and contributing strongly to the level at long distances. The atmosphere in the standards existing is just homogeneous above height." Since there are no accepted algorithms to predict these refractions, sound propagation models cannot evaluate conditions that have vertical or horizontal turbulence even though we know they can add significant sound at the receiving location when present. As a result, predicted sound levels are understated.*"

Iberdrola's Updated Noise Assessment for Hardscrabble Wind [94] includes its now discredited claims that its wind turbine project would be in compliance with the already less-than-protective 50dBA limit: "*Figure 1 presents the predicted facility levels under full power conditions including the +2 dBA warranty term. Table 3 compares the predicted facility noise levels under these conditions to the absolute noise limit of 50 dBA established by the Town of Fairfield. No residences are predicted to exceed the Town of Fairfield's limit of 50 dBA, even at participating homes.*"

"**Wind turbine noise, an independent assessment RAND ACOUSTICS,**"[95] by Stephen Ambrose and Robert Rand, first published in the Herald Gazette, 10 September 2010. Stephen Ambrose and Robert Rand are members of the Institute of Noise Control Engineering. In 2009, they became concerned about the negative comments from residents living near wind turbine sites and, the apparent lack of regulatory action to address the potential for adverse health impacts from wind turbine generator noise in Mars Hill. They launched their own evaluation, and came to the following conclusions in a series of guest columns.

1) Wind turbines larger than one megawatt of rated power have become an unexpected surprise for many nearby residents by being much louder than expected. The sounds produced by blades, gearing, and generators are significantly louder and more noticeable as wind turbine size increases. Long blades create a distinctive aerodynamic sound as air shears off the trailing edge and tip. The sound character varies from a "whoosh" at low wind speeds to "a jet plane that never lands" at moderate and higher wind speeds. Blade-induced air vortices spinning off the tip may produce an audible "thump" as each blade sweeps past the mast. Thumping can become

[94] IBR http://www.iberdrolarenewables.us/hardscrabble/SDEIS/3-Appendices/Appendix_N-Noise/1-IBR_Hardscrabble_March-22-2009_Final.pdf
[95] Wind Turbine Noise An Independent Assessment: http://randacoustics.com/wind-turbine-sound/wind-turbines-published-articles/wind-turbine-noise-an-independent-assessment/

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 26

GG-60 Cont.

GG-61

GG-62

GG-61 See response to comment GG39.

GG-62 See response to comments GG36, GG39 and GG59 above.

more pronounced at distance, described as "sneakers in a dryer," when sounds from multiple turbines arrive at a listener's position simultaneously.

2) Wind turbines are not synchronized and so thumps may arrive together or separately, creating an unpredictable or chaotic acoustic pattern. The sounds of large industrial wind turbines have been documented as clearly audible for miles. They are intrusive sounds that are uncharacteristic of a natural soundscape.

3) Studies have shown that people respond to changes in sound level and sound character in a predictable manner. A noticeable change in sound level of 5 decibels (dB) may result in "no response" to "sporadic complaints." An increase of 10 dB may yield "widespread complaints." A 15 dB increase, "threats of legal action."

4) The strongest negative community response occurs with an increase of 20 dB or more, resulting in "vigorous objections." Audible tones, variability in sound level, and an unnatural sound character can amplify the public response. For a distinctive or unpleasant sound, a small change in sound level, or the sound simply being audible, may provoke a strong community response. Community response can intensify further if sleep is disturbed and quality of life or property is degraded.

5) Weather conditions influence the sound level generated and how it travels to nearby homes. Sound waves expand outward from the wind turbine with the higher frequencies attenuating at a faster rate than low frequencies. Locations beyond a few thousand feet may be dominated by low frequency sounds generated by the wind turbines. Wind turbulence and icing, both common in New England, due to topography and latitude, increase aerodynamic noise, due to intensified or chaotic dynamic stall conditions along the blade surfaces. Atmospheric conditions at night and downwind enhance sound propagation toward the ground by increasing levels over longer distances. Wind turbines are elevated hundreds of feet to receive stronger winds, yet winds down on the ground or in nearby valleys may be non-existent with correspondingly low background sound levels, accentuating the impact of the intrusive sounds.

6) Other professionals have developed thresholds, or criteria, for sound level to protect public health that may be applied to planning for wind turbine permitting. Recommendations from Hayes McKenzie Partnership in 2006 limited maximum wind turbine sound levels at residences to 38 dBA and no more than 33 dBA when "beating noises" are audible while the turbines spin.

7) Dan Driscoll presented his analysis in 2009 (Environmental Stakeholder Roundtable on Wind Power, June 16, 2009) with a Composite Noise Rating analysis of 33 dBA to reduce rural community response to the level of "sporadic complaints."

8) Michael Nissenbaum issued his findings in 2010 from his medical study at Mars Hill, recommending a 7,000-foot setback for public health. The World Health Organization published sound level thresholds of sleep disturbance and adverse health effects from peer-reviewed medical studies (Night Noise Guidelines for Europe, October 2009).

9) Our next column will compare our sound level versus distance data with these medical, health, and community response criteria and show what distances are necessary to protect public health.

10) Currently, there is no effective, reliable noise mitigation for wind turbines of this size other than shutdown. Therefore, at this time, it appears appropriate that proposed wind turbine sites should position wind turbines at least one mile away from residential properties and further for sites with more than one wind turbine. Smaller wind turbines (under one megawatt power rating) produce less noise than those currently being marketed and installed for grid power in Maine; these may be an option when distance is an issue.

Falmouth wind turbine neighbor's testimony included the following statement on "turbine torture"[26]: *"The garden that was a sanctuary to me for 30 years is now more like a torture chamber. Some of the abutters have started using the term "turbine torture." When the turbine first went into operation in March 2010, and then*

GG-62 Cont.

GG-63

GG-63 See responses to comments V5 and GG39.

through April, I tried to acclimate myself to live with this thing. After dropping into a three-month depression, I finally avoided my own home."[95] *I am an abutter to what the Town of Falmouth, Massachusetts, calls their WIND 1--their first wind turbine, a 1.65MW Vestas 400-foot-tall goliath. Since it went into operation in early 2010, quite a number of us abutters have suffered serious medical detriments and a gigantic loss of quality of our lives from the noise impact of this machine. My own home is 1,662 feet from the turbine, and the effects of the sound on me have caused anxiety, stress, nervousness, sleep deprivation, hypertension, migraines, dizziness, blurred vision, palpitations, irritability, anger, upset stomach (and) depression. These ailments are well documented by my medical providers."*

A study released last week concludes wind turbines in Falmouth negatively affect abutters' health:[97] *Its results assert that wind turbines cause "visceral" physical reactions and that sound waves from turbines are felt more intensely indoors than outside. Previous sound studies that showed no negative health effects were done outdoors, Ambrose said. The recent study, which used low-frequency microphones to measure sound waves, showed sounds are more intense indoors than out. Data from this study showed a 10 dbG (a measurement for infrasound) increase outdoors and a 20 dbG increase indoors. The effect is similar to "living in a drum," he said. An independent review of the acoustics data indicates it is scientifically valid, Nancy S. Timmerman, chairwoman of the Acoustical Society of America's Technical Committee on Noise, said in an email. She added that she can speak only to data on acoustics, not physiological effects reported in the study."*

GG-63 Cont.

Abstract from "Wind Turbines Make Waves: Why Some Residents Near Wind Turbines Become Ill,"[98] by Magda Havas; and David Colling: "*People who live near wind turbines complain of symptoms that include some combination of the following: difficulty sleeping, fatigue, depression, irritability, aggressiveness, cognitive dysfunction, chest pain/pressure, headaches, joint pain, skin irritations, nausea, dizziness, tinnitus, and stress. These symptoms have been attributed to the pressure (sound) waves that wind turbines generate in the form of noise and infrasound. However, wind turbines also generate electromagnetic waves in the form of poor power quality (dirty electricity) and ground current, and these can adversely affect those who are electrically hypersensitive. Indeed, the symptoms mentioned above are consistent with electrohypersensitivity. Sensitivity to both sound and electromagnetic waves differs among individuals and may explain why not everyone in the same home experiences similar effects. Ways to mitigate the adverse health effects of wind turbines are presented.*"

GG-64

NOISE ALSO HURTS WILDLIFE

In addition to its mandate to protect public health and safety, the County also has an obligation and responsibility to recognize and address the potentially cumulatively significant adverse impacts on wildlife, their habitat, foraging and reproduction, corridors & migration:

GG-65

Wind projects are often proposed along ridgelines in major migration routes and sensitive habitats. Much of rural San Diego County is located in the Pacific Flyway with diverse resident populations and active migration routes Turbine generated EMF/RFR/ and other project related emissions may cause disruption in the earth's natural magnetic fields and micro pulsations that wildlife relies on for a sense of place and compass to guide migration routes and their every move.

GG-66

[96] Barry Funfar Turbine Torture testimony: http://www.windaction.org/stories/29332
[97] http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20111226/NEWS/112260313
[98] http://docs.wind-watch.org/Bull-Sci-Technol-Soc-2011-Havas-0270467611417852.pdf

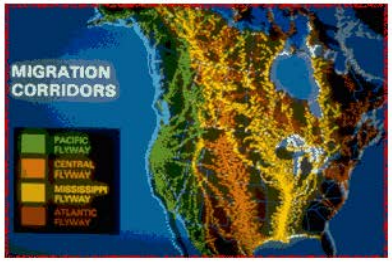
GG-64 See response to comment V3.

GG-65 The County's Guidelines for Determining Significance for Biological Resources addresses impacts from noise (see Section 4.1.H of the Guidelines). These Guidelines also require projects to address direct, indirect, and cumulative impacts to wildlife, habitat and corridors. Mitigation Measure M-BIO-1 of the DEIR proposes to apply the County's Guidelines for Determining Significance for Biological Resources to all future large wind projects.

In addition, the DEIR for this project includes discussion of direct, indirect and cumulative impacts from large wind turbines on biological resources in Section 2.4.

GG-66 The County General Plan requires development to protect ridgelines; therefore, it is not likely that future large wind turbines will be developed along ridgelines. The County agrees that large wind turbine projects may affect wildlife movement, including avian migration. This information is consistent with the existing content of the DEIR. The County is proposing to include the latest guidelines from state and federal agencies in its Guidelines for Determining Significance for Biological Resources (e.g., the CEC Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development). This is described in mitigation measure M-BIO-2 in DEIR Section 2.4.6.1.

	This measure would ensure that the most up-to-date standards for addressing impacts from wind energy development would be used in assessing potential impacts to avian migration routes.



The non-human world is also affected by electromagnetic radiation that can cause trees to lose leaves prematurely and become more susceptible to diseases. Evidence shows that RF from cellular, TV and radio towers lowers milk production in cows, causes deformities in amphibians, lowers reproduction in animals and birds and causes confusion, navigational disruption and death in migratory birds. Bee's navigational abilities are known to be sensitive to low-level EMF. **The U.S. Fish and Wildlife Service now offers a conservative estimate that between 4 to 5 million bird deaths per year may result from bird collisions with towers.** The songbird populations of industrialized countries are plummeting for myriad reasons. But RF may play a role as an attractant to birds, since their eyes, beaks, and brain tissue are loaded with magnetite, a natural mineral highly sensitive to external magnetic fields that birds use in navigation. Noted ornithologist, Robert Beason, discovered rapid neuronal firings in avian brain tissue exposed to cell frequency RFs at very low intensities. And there are also indications that RF may be contributing to global warming through agitation of hydrogen molecules in the upper atmosphere and ionosphere, like microwave ovens agitates water molecules in a coffee cup. Maybe greenhouse gases are not the only culprits in global warming. RF may prove a significant but hidden factor, according to some research.[99]

Humans, avians, and other living creatures have been found to have "chains and concentrations of magnetite crystals in their brain tissue and the ethmoid bone above the eyes and sinuses has a high concentration, and so does the blood- brain barrier (the discovery of magnetite in these areas is significant because of the proximity of the ophthalmic nerves, which carry much information to the brain)"[100] that may help explain some of the adverse reactions and confusion linked to exposure to changes in earth's natural electromagnetic fields, that birds and other species use to guide their migration and daily lives. These can be influenced and disrupted by natural interference like solar flares, or earthquakes or UNATURAL MANMADE INTERFERENCE/DISRUPTION INFLUENCED BY THE IN INTRODUCTION OF INCREASED RADIOFREQUENCY RADIATION, ELECTROMAGNETIC, AND MICROWAVE RADIATION EMISSIONS.

"Birds' navigation tools are the position of the sun and stars and the earth's magnetic ley lines, which always indicate the position of polar north and south, but on overcast days birds navigate by means of the earth's magnetic field alone...Migratory birds rarely get lost, but they sometimes end up thousands of miles off course, due to disruptions in the magnetic fields, either naturally caused by storms or artificially caused by man. Homing pigeons have been unable to find their destinations in experiments in which contact lenses or small magnets were attached to their heads, both items would interfere with their ability to sense the earth's magnetic fields."[101]

[99] Excerpt from Forward of Electromagnetic Fields, A Consumer's Guide to the Issues and how to protect ourselves by B.Blake Levitt (Authors Guild Blackprint.com edition updated 2007)
[100] Excerpt from Page 73 Natures Electromagnetic Sixth Sense: Electromagnetic Fields by B.Blake Levitt
[101] Excerpt from Page 74-75: Electromagnetic Fields by B. Blake Levitt

GG-67

GG-68

GG-69

GG-67 Potential indirect biological impacts from electromagnetic radiation from wind turbines are not discussed in guidelines from State and federal agencies (e.g. CEC Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development, the USFWS Wind Energy Guidelines, or the USFWS draft Eagle Conservation Plan Guidance). Moreover, there is no substantial evidence that electromagnetic radiation from wind turbines result in adverse environmental or health effects. Nonetheless, indirect impacts to biological resources from future large turbines were discussed in the DEIR and found to be significant (see DEIR Section 2.4.3.1).

GG-68 The County agrees that large wind turbine projects have resulted in significant numbers of bird collisions. This is not inconsistent with the existing content of the DEIR.

GG-69 See response to comment GG67.

This linked documentary video, "They're Not Green," by award winning producer/director Nettie Pena[102] includes interviews with Independent Consultant Biologist, Shawn Smallwood on the staggering numbers of Golden Eagle and other avian deaths related to collisions with wind turbines, including the distance from wind turbines that he has found dead and severely wounded birds:

GG-70

Noise effects on wildlife can be profound and devastating in regards to habitat, foraging, alert calls, reproduction, and overall health and survival as documented in numerous studies and reports.[103, 104, 105]

This linked Fish & Wildlife report on the "Effects of Noise on Wildlife" includes concerns with adverse impacts related to wind turbine noise, low frequency noise and vibrations.[106]

Studies show that sound can increase stress hormones, which can lead to illness.[107, 108] Functioning ecosystems depend on natural acoustical environments. Many animals, insects, and birds decipher sounds to find desirable habitat and mates, avoid predators and protect young, establish territories, and to meet other survival needs.

Scientific studies have shown that wildlife can be adversely affected by sounds and sound characteristics that intrude on their habitats. Although the severity of the impacts varies, depending on the species being studied and other conditions, research has found that wildlife can suffer adverse physiological and behavioral changes from intrusive sounds and other human disturbances. Some sound characteristics have been associated with suppression of the immune system and increased levels of stress-related hormones in animals.

GG-71

Studies have also shown that songbirds that live in places with increasing sound levels have to sing louder than birds in quieter environments, and not all species have the ability to adapt in this way. Birds forced to sing at a higher volume have to expend increased levels of precious energy to attract a mate or warn of predators.

Bighorn sheep are less efficient at foraging for food when they are exposed to aircraft, and mountain goats often flee from the sound of helicopters and airplanes. Still other research has demonstrated that intrusive sound

[102] http://web.me.com/thrnotgreen/thrnotgreen/Bios.html; http://web.me.com/thrnotgreen/thrnotgreen/Episode_6.html

[103] http://www.fws.gov/windenergy/docs/Noise.pdf
[104] http://www.acousticecology.org/wildlandbiology.html
[105] http://www.nonoise.org/library/fctsheet/wildlife.htm
[106] http://asirnews.org/archives/category/wildlands/effects-of-noise-on-wildlife
[107] http://www.fws.gov/windenergy/docs/Noise.pdf
[108] http://www.nature.nps.gov/naturalsounds/impacts/

GG-70 County staff reviewed the information provided in this comment, which focuses on the significant bird and bat impacts identified at the Altamont Pass Wind Resource Area. The County agrees that the Altamont Pass Wind Resource Area has been extremely detrimental to golden eagles. As such, future large wind turbine projects must be designed to avoid the mistakes made at Altamont Pass. The latest guidelines from State and federal agencies are proposed be applied to large wind turbine projects in the County as part of this project (see M-BIO-1 and M-BIO-2 in DEIR Section 2.4.6.1).

GG-71 The County's Guidelines for Determining Significance for Biological Resources addresses impacts from noise (see Section 4.1.H of the Guidelines). Mitigation Measure M-BIO-1 of the DEIR proposes to apply the County's Guidelines for Determining Significance for Biological Resources to all future large wind projects.

properties can adversely affect reproductive success in caribou and communication in whales. When these effects are combined with the other stressors faced by wildlife such as winter weather, disease, insect harassment, and food shortages, sound impacts can have important implications for the health and vitality of wildlife populations."

Bighorn Sheep historically extended into the Sawtooth and Tierra Blanca Mountains and the McCain Valley area, according to members of local Native American tribes whose families hunted them for food as late as the last two decades. Locals who previously or currently live in the McCain Valley, Walker Canyon and Ribbonwood Road area have witnessed Bighorns in the south end of McCain Valley as recently as 2010 and near Cameron Station/Kitchen Creek Road and I-8 in 2011.

The 1981 BLM Eastern San Diego County MFP also documents their extended territory, as well as most of McCain Valley and surrounding area as Raptor Nesting.[109] Golden Eagles have been undercounted, according to sightings by local residents across Eastern San Diego and Western Imperial Counties. No one can honestly say that there will not be significant cumulative effects to these creatures who have already lost so much of their habitat,[110] including recent reductions that we believe were politically motivated in order to accommodate the Sunrise Powerlink and industrial wind turbine projects.

How will the introduction of hundreds/thousands of wind turbines and their noise, infrasound low frequency, EMF/RF, blade flash, and FAA lighting further impact their fragile existence?

[111] **"Impacts of Noise on Wildlife Fact Sheet"**:[112] National Park Services' Annotated Bibliography on the Effects of Noise on Wildlife: The USFWS Wind Turbine Guideline committee continues to be dominated by wind industry and its friends, despite growing evidence of high avian mortality rates at wind turbine projects[113, 114, 115, 116, 117, 118] and even at wind energy substations[119] AND the public outcry[120] and alarm at the gutting of previous and much-needed new protections for Golden Eagles and other at-risk species, including voluntary instead of mandatory enforcement of the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Livestock and their owners suffer from wind turbine pollution impacts as well... In the May 19, 2011 issue of Recharge, Christiana Sciaudone, Rio de Janeiro, reported that protesters blocked work at Iberdrola Renovables' La Venta Oaxaca wind project and that the company declined to comment on the accusations, which also included claims of deforestation, dead cattle and damaged crops.[121]

Livestock operations have been damaged or abandoned due to stray voltage and other adverse conditions and impacts like the one in photograph from Canada below. Similar reports have come from goat, dairy, beef cattle,

[109] Critical Habitat: http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pdfs/elcentro_pdfs/esandiegoplan.Par.bbe11475.File.pdf/ESDC_MFP.pdf
[110] http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pdfs/elcentro_pdfs/esandiegoplan.Par.e7631351.File.dat/map%207%20-%20criticalhabitat8X11.pdf
[111] wind-power-problems.org wind-turbine-bird-kill.jpg
[112] http://www.nature.nps.gov/naturalsounds/pdf_docs/wildlifebiblio_Aug2011.pdf
[113] Eagle Deaths investigated at wind farm: http://articles.latimes.com/2011/aug/01/local/la-me-wind-eagles-20110803
[114] http://www.foxnews.com/scitech/2011/08/16/energy-in-america-dead-birds-unintended-consequence-wind-power-development/
[115] WSJ: Windmills are killing our birds: one standard for oil companies another for green energy sources: http://online.wsj.com/article/SB10001424052970203706604574376543308309048.html
[116] Wind Farm turbines blamed for bird kills: http://articles.boston.com/2011-08-30/news/29945844_1_wind-turbines-wind-farms-wind-industry
[117] Unexpected Downside of Wind Power: http://www.wired.com/science/planetearth/news/2005/10/69177?currentPage=all
[118] Video: Bird killed by Green Energy: http://www.youtube.com/watch?v=wVz5hdAMCGI
[119] http://green.blogs.nytimes.com/2011/11/09/nearly-500-birds-found-dead-at-wind-farm/
[120] http://www.wind-watch.org/documents/comments-on-the-revised-draft-guidelines-for-land-based-wind-energy-projects/
[121] http://www.rechargenews.com/bardcopy/article237538.ece ; http://www.rechargenews.com/energy/wind/article257059.ece

GG-71 Cont.

GG-72

GG-73

GG-74

GG-75

GG-76

GG-72 Issues raised in this comment are not inconsistent with the existing content of the DEIR. Section 2.4 of the DEIR discusses potential direct, indirect, and cumulative impacts to special status species, including peninsular bighorn sheep and golden eagle.

GG-73 It is not known how many wind turbines may be approved and constructed under the proposed ordinance. However, potential impacts from noise, bird and bat collisions, and lighting are discussed in the DEIR (Sections 2.1, 2.4, and 2.8). Moreover, project-specific analyses and mitigation for these impacts will be included in the environmental review of future large wind turbine projects. See also response to comment GG-67 regarding electromagnetic radiation effects.

GG-74 The County acknowledges that noise from large wind turbine projects can have significant effects on wildlife. See responses to comments GG71, GG72 and GG73 above.

GG-75 The County appreciates this information. Project-specific analyses of and mitigation for potential impacts to agriculture and biological resources will be required for future large wind turbines (mitigation measures M-AGR-1 and M-BIO-1).

GG-76 The County could not find reliable studies to substantiate claims regarding impacts to animals from

	stray voltage. However, the County acknowledges that large wind turbine projects can adversely affect agriculture and/or biological resources. See response to comment GG75 above.

alpaca[122, 123] and crop farmers. Some residents have also reported damaging surges and brownouts from fluctuating power that destroyed sensitive equipment. Most families cannot sustain the intense and expensive legal battles against well-heeled and politically entrenched wind energy and utility companies who are at the root of their problems--so they are forced to walk away with their family finances destroyed. GG-77

THIS TYPE OF BEHAVIOR SHOULD NOT BE THE ALLOWED, CONDONED OR SUPPORTED BY OUR COUNTY, STATE, OR FEDERAL AGENCIES THAT ARE SUPPOSED TO ENSURE THAT THESE TYPES OF LIFE-THREATENING IMPACTS GO UNPUNISHED--NOR SHOULD DEVELOPERS BE REWARDED FOR THEIR NEGLIGENT AND FRAUDULENT ACTIONS AND INACTIONS. GG-78

APPENDIX B: GENERAL PLAN AMENDMENT GG-79

Borrego Community Plan: We strongly support the proposed amendment to "prohibit large wind turbine projects within this important scenic resource" that is intended to protect Montezuma Valley.

However, we have to question the obvious bias when compared to proposed amendments to the Boulevard Plan that will remove protections for scenic resources that are important to the residents and property owners who have made investments to live near and enjoy the expansive views and to local businesses who depend on them to attract visitor traffic to their venues. The value of those scenic resources is reflected in the updated Boulevard Community Plan,[124] which was approved by the Board of Supervisors in August 2011. GG-80

A similar bias was evident during the Sunrise Powerlink review process where East County's valued resources and impacted communities were obviously and erroneously viewed by decision makers as second or third class, less worthy of protection and available for sacrifice. As a result, significant adverse land use changes were allowed or forced and are now being ushered through in an unlawful and arbitrary manner. GG-81

Boulevard Community Plan: All of the proposed changes in the Boulevard Community Plan are unjustified, unwarranted, unconscionable, unsupportable, unlawful, AND they must be denied outright. GG-82

WIND TURBINE PROJECTS ARE NOT A CIVIC USE. THEY ARE COMMERCIAL INDUSTRIAL UTILITY SCALE ENERGY GENERATION FACILITIES REGARDLESS OF WHERE THEY ARE LOCATED. GG-83

DPLU staff has been well aware of the Boulevard Planning Group's concerns with the adverse effects of industrial wind turbine projects as reflected in remarks documented in numerous hearings including the linked minutes from the General Plan Update Steering Committee meeting held on January 10, 2009[125]: GG-84

"*Ms. Tisdale recommended that policies should be added to noise, safety, and fire to address wind towers. She further commented that currently there are several proposals for wind farms in the Boulevard community and other communities should be aware of not just the positive effects but also the negative impacts of wind farms.*"

New peer-reviewed and other information provided in these and previous comments (including those in Appendix C), submitted into this record by the Boulevard Planning Group, our non-profit groups and others--and for the record, on similar cumulative impact projects--do serve as fair notice to County decision makers that they can and should be held liable for future harm or damages to people and property[126] resulting from inadequate non-science-based research, analyses, restrictions, setbacks, mitigation, monitoring and/or approvals of this Wind Energy Ordinance & Plan Amendment DEIR, the Tule Wind MUP GPA and any large-scale wind turbine projects. GG-85

[122]Wirtz family abandon home and alpaca breeding over turbine impacts
http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pdfs/elcentro_pdfs/esandiegoplan.Par.e7631351.File.dat/map%207%20-%20criticalhabitat8x11.pdf
[123]http://betterplan.squarespace.com/todays-special/2010/4/15/41510-why-did-the-wirtz-family-abandon-their-wisconsin-home.html
[124] http://www.sdcounty.ca.gov/dplu/gpupdate/docs/BOS_Aug2011/C_2_10a_BOULEVARD_08.03.11.pdf
[125]http://www.sdcounty.ca.gov/dplu/gpupdate/docs/scminutes_011009.pdf
[126] Life with turbines: http://www.goodhuewindtruth.com/LIFE_IN_A_WIND_FARM.html

GG-77 This comment does not raise a significant environmental issue for which a response is required; however, the information in this comment will be included in the Final EIR for review and consideration by the County Board of Supervisors.

GG-78 See response to comment W3.

GG-79 The commenter's support for the proposed amendment to the Borrego Community Plan is acknowledged.

GG-80 The County acknowledges the commenter's opposition to the proposed amendments to the Boulevard Community Plan. Since the majority of the wind resource in the County occurs in the Boulevard Community, the County would be remiss if it did not analyze in the DEIR a General Plan Amendment (GPA) to the Boulevard Community Plan to allow for wind turbine projects. The proposed GPA action would help to meet the stated project objectives. However, a reduced alternative that does not include the GPA is also analyzed in the DEIR for consideration by the decision makers.

GG-81 This comment pertains to a different project and does not raise an environmental issue with the Wind Energy Ordinance.

GG-82 The County acknowledges the commenter's opposition to the General Plan Amendment proposed for the

	Boulevard Community Plan. Both the Limited Large Wind Turbine Alternative and the No Project Alternative would maintain the existing language within the community plan. Ultimately, the County Board of Supervisors will determine whether to approve the project or an alternative or to maintain the status quo. The information in this comment will be in the Final EIR for review and consideration by the Board. **GG-83** See response to comment K5. **GG-84** The County concurs with this comment. **GG-85** This comment does not raise a significant environmental issue for which a response is required.

Our groups and others have provided more than adequate documentation in this comment letter and others[127] to support the fact that noise, infrasound, vibrations and stray voltage/dirty electricity generated by large wind turbines and related infrastructure can and do result in adverse health and safety effects, disease, loss of quality of life, loss of jobs, loss of income, loss of property values and increased medical and housing expenses. GG-86

ADVERSE IMPACTS TO PROPETY VALUES ARE ALSO WELL DOCUMENTED IN THIS AND OTHER COMMENT LETTERS, CONTRARY TO THE NOW-DISCREDITED INDUSTRY-TOUTED DENIALS THAT ARE BASED ON AT LEAST ONE REPORT THAT EVEN CO- AUTHOR BEN HOEN HAS NOW RECANTED.

Wind turbine project developers should be required to offer property value guarantees to non-participating-property owners. This should not be a problem for them if they really believe their own claims that there are no adverse impacts. GG-87

APPENDIX D: CEQA INITIAL STUDY

NO ONE MOVES TO THE COUNTRY TO LIVE NEXT TO 400- to 500-FOOT-TALL CHURNING, GROANING, FLASHING AND BLINKING WIND TURBINES, AND THE WEB OF BUZZING AND EMF EMITTING POWERLINES AND SUBSTATIONS THAT THEY RELY ON. The CEQA Initial Study (Appendix D) should have checked these boxes for the following reasons:

Land Use Planning: After over a decade of regional and community planning through the General Plan Update, we are now faced with major amendments potentially impacting over 800,000 acres, mostly zoned for low-density, just months after formal approvals in August 2011[128]. GG-88

The County's August 2011 press release on the GP approval included the following statements:
1. General plans guide community development. Generally, they set the philosophy and policies that determine what gets built where.
2. The General Plan Update accomplishes that in part by shifting an estimated 20 percent of the development expected to occur in the future to western unincorporated communities with established infrastructure such as roads, fire protection and sewer services.
3. Benefits of the plan when compared to the previous plan include:
   1) Accommodating a roughly 41 percent increase in population in unincorporated communities while still cutting projected growth in the old general plan by 15 percent.
   2) Cutting potential greenhouse gas emissions by 550,000 metric tons a day by reducing new road construction by 780 lane miles and eliminating up to three million vehicle trips a day.
   3) Reducing wildfire threats by locating more growth closer to existing fire stations.
   4) Reducing potential direct effects of development on biological habitat

4. The General Plan Update was developed with broad public input from developers, business owners, environmentalists, farmers, homeowners, landowners and renters. To see the plan, go to www.sdcounty.ca.gov/dplu/gpupdate. GG-89

Greenhouse Gas Emissions: Increased reliance on large-scale intermittent energy projects located in rural areas can result in increased and cumulative GHG emissions, due to the need to ramp up and down for load balancing of non-renewable backup generation and construction trucks having to climb steep roads from either east or west supply sources. Even the DOE is aware of the challenges of integrating more wind power and that the stress and strain of an influx of intermittent wind energy can play havoc with grid stability and reliability.[129] GG-90

[127] ECO Tule ESJ protest: http://backcountryagainstdumps.org/ECO%20Sub%20-%20Volker%20%20protest%209-14-09(1).pdf
[128] Supervisors Approve General Plan Update: http://www.sandiegocountynews.com/2011/08/04/county-supervisors-approve-general-plan-update/
[129] DOE Report Outlines Challenges of Integrating Wind: http://www.nawindpower.com/e107_plugins/content/content.php?content.9103

GG-86 The County agrees that low frequency noise can result in significant effects. This is discussed in DEIR Section 2.8; and provisions have been added to the draft Wind Energy Ordinance to regulate low frequency noise.

While the DEIR acknowledges public interest and concern regarding potential health effects from turbines, it concluded that scientific evidence available to date does not demonstrate a direct causal link between turbines and adverse health effects. Disagreement among experts does not result in an inadequate EIR (CEQA Guidelines Section 15151).

The comment raises concerns regarding jobs, income, and property values. Social and economic effects need not be considered in an EIR (see CEQA Guidelines sections 15064(e) and 15131).

GG-87 See response to comment GG41.

GG-88 See response to comment W3.

GG-89 The County agrees with this comment, which quotes information on the General Plan.

GG-90 Potential greenhouse gas emission impacts, including those described in this comment, are discussed in DEIR Section 3.1.1.

3.26: Utilities and Service Systems: The electric grid is the most impacted utility that was inexplicably left out of this DEIR. The proposed and reduced Projects represent adverse impacts to the grid, including induced infrastructure growth necessary to accommodate export of considerable amounts of intermittent energy that is far beyond any local usage, increased destabilization of the grid and need for additional backup generation or storage of some kind to balance the load. GG-91

- SDG&E'S Sunrise Powerlink AND proposed ECO Substation are both slated for expansions and similar utility infrastructure IS part of the whole of the project under CEQA.
- New CEC December 2011 reports show Sunrise Powerlink is already planned to have an additional 940 MW of expansion/upgrade to accommodate more renewable energy projects in CREZ South San Diego and CREZ Imperial North and South, up to 1,700 MW. GG-92
- The ECO Substation EIR documents show that it is planned to accommodate up to five 500kV lines, nine 230 kV lines and nine 138 kV lines (4800 MW).
- Impacts to utility/grid infrastructure and reliability when switching from steady 60Hz base load energy for highly intermittent, unreliable and volatile energy sources, especially so when the proposed Project and reduced Project may result in highly concentrated and potentially dense large-scale industrial wind and solar projects located in and around rural communities and sensitive habitat and resources, with limited or old infrastructure. GG-93
- **Congress is now, belatedly, discussing the drastic changes in energy production that are being rushed forward without proper research, planning, valid mitigation or funding** that all point to potentially severe impacts on grid reliability[130] and GE advertises that "GE's Gas-Fired Plants Could Enable More Wind and Solar Power"[131]: "*We have a lot to understand about when we transform to a varying supply.*" GG-94
- The variability of solar power and wind power can play havoc with the grid. In a political era where California and other states are mandating 20 percent or 33 percent or even 40 percent Renewable Portfolio Standards, the current system is not designed to deal with that level of variability, according to Jim Detmers, former COO of the California Independent Systems Operator (CAISO): "*The system is not designed to accept that proportion of renewables." increasing penetration of renewables like wind and solar actually require an increase in the amount of natural gas-fired backup. And natural gas plants are at their least efficient when they are ramped up and down. Natural gas, despite its recent good press for being cleaner than coal and of domestic origin, is still a fossil fuel that pollutes the air when combusted and the water when extracted via fracking. Estimates from the Energy Information Administration suggest that shale gas could make up 45 percent of all natural gas production in the U.S. by 2035 -- up from the current 14 percent.*" GG-95

Transportation/Traffic: The size, bulk, and scale of large wind turbine components often require the construction of new access roads and/or the expansion or alteration of existing rural roads that were never designed, engineered, or built to handle 70-ton cranes or parts. GG-96

[130] http://www.powermag.com/POWERnews/4276.html?hq_e=el&hq_m=2352931&hq_l=5&hq_v=771ce143f5
[131] http://www.greentechmedia.com/articles/read/ge-launching-gas-fired-plants-better-suited-to-wind-and-solar-power/

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 34

GG-91 The County used the questions in CEQA Guidelines Appendix G, section XVII regarding Utilities and Service Systems. These questions ask whether the project would cause potential environmental impacts associated with creating a need for new or expanded facilities for providing water, treating wastewater, handling storm water or disposing of solid waste. The County does not agree that the proposed ordinance would significantly impact utilities or service systems (see DEIR Section 3.2.6).

GG-92 It is unclear what this comment means or how it relates to the proposed project and, therefore, no response is provided.

GG-93 It is not entirely clear what this comment means. Nonetheless, see responses to comments W3 and GG91.

GG-94 This comment does not raise a significant environmental issue for which a response is required.

GG-95 It is unclear how this comment relates to the County's proposal to revise and update its zoning regulations related to wind energy turbines. Nonetheless, see responses to comments W3 and GG91.

GG-96 The County agrees with this comment; however, this issue is not a transportation/traffic impact. A proposed large wind turbine project may need to expand or

	improve roads. The potential environmental impacts of that project component would be analyzed in various other EIR sections depending on the resources affected. For example, Section 2.4.3.1 of the DEIR discusses potential biological impacts from access roads associated with large wind turbine projects. It should be noted that during the Major Use Permit process, the County will apply the General Plan Policies in the Mobility Element. Goal M-9 of the Mobility Element states: "Reduce the need to widen or build roads through effective use of the existing transportation network and maximizing the use of alternative modes of travel throughout the County." Should new roads need to be built as part of a large wind turbine project, the policies in the Mobility Element also require environmentally sensitive road design (e.g., policies M-2.3 and M-2.5).

Cumulative impacts. See photos below for an idea of how massive each wind turbine blade and transport vehicles are. Some rural roads or intersections will need to be widened which means mature oaks or other vegetation and unique rock formations may need to be removed or blasted out of the way, as proposed for the Tule Wind project with impacts to Ribbonwood Road, McCain Valley Road, and the addition of a new road across the blue line Tule Creek 100 year floodplain. **This was not covered in the DEIR and should be.** GG-97

[132]

Public Services: The introduction of hundreds or thousands of new large wind turbines and related infrastructure throughout San Diego County's backcountry, or concentrated in disproportionately impacted areas like Boulevard and Jacumba, represent significant, cumulative and potentially catastrophic fire ignition sources into underserved and previously inaccessible rural areas. GG-98

Waste: Turbine blades on composite and non-recyclable waste hydraulic fluid from industrial wind turbines, tens of thousands of gallons of turbine and transformer fluids, dust suppressant, herbicide impacts on groundwater. GG-99

Recreation: Section 3.2.5[133] erroneously and contradictorily states that that "No impacts to recreational facilities would result from the development of large wind turbines" and then regarding impacts to regional resources says "projects in the region would have the potential to result in cumulatively considerable impacts to recreational facilities" AND then states "The proposed project will not result in any significant impacts to recreational facilities; therefore, no mitigation measures are required."

The installation of large-scale industrial wind turbines inside recreation areas like the Lark Canyon OHV Park and Campground and the Cottonwood Campground, and around non-motorized trails and rock-climbing areas throughout McCain Valley Conservation and Recreation Area and other rural recreation areas IN THE OVER 800,000 ACRES OF THE IMPACTED PROJECT AREA AND OVER 400,000 ACRES OF REDUCED PROJECT AREA could prove to be devastating not only to the resources and quality of experiences and ambiance, GG-100

[132] Whitelee Blade Stunner: http://www.eveningtimes.co.uk/news/whitelee-blade-stunner-1.1161441
[133] DEIR page 3.2.5.3

GG-97 This comment raises concerns regarding the potential effects to vegetation, unique rock formations, or floodplains from construction activities of large wind turbines. Potential construction impacts to vegetation and sensitive species are discussed under "Large Turbine(s)" in DEIR Section 2.4.3.1. Potential impacts to scenic rock formations are discussed in DEIR Section 2.1.3.2. And potential effects to floodplains are discussed in DEIR Section 3.1.2.3.7. Furthermore, the site specific environmental review for a proposed large wind turbine project would include an analysis of these potential impacts and a description of measures to mitigate the impacts.

GG-98 The County is not proposing to introduce hundreds or thousands of new large wind turbines to the County's backcountry. Rather, the proposed Wind Energy Ordinance would update and clarify the existing regulations for large wind turbines. Evaluation of environmental impacts related to fire protection services is provided in the Public Services chapter of the DEIR (Section 3.2.4). However, the comment also raises concerns regarding potential hazards from wildland fires, which is analyzed in DEIR Section 2.6.3.7. It should also be noted that future large wind turbine projects will be required to comply with the Safety Element of the County General Plan. Policies S-3.1 through S-3.7 of the Safety Element require development projects to reduce potential risk of fire

	hazards. **GG-99** It is unclear what the comment means. Assuming that the comment means that wind turbines use hydraulic fluid, transformer fluid, dust suppressant and herbicides that may impact groundwater, the response is as follows: Discussion of hazardous substances and materials related to large wind turbine projects is provided in DEIR Section 2.6.3. Potential impacts to groundwater and surface water quality will be regulated by State regulations, as well as County ordinances and policies (see DEIR Sections 3.1.2 and 3.26). Furthermore, site specific environmental review for proposed large wind turbine projects will include an analysis of potential impacts to groundwater and a description of measures to mitigate potentially significant impacts. **GG-100** The County does not agree with this comment. See response to comment AA3.

but also to the tourist draw itself that would reduce use and related tourism dollars going to support local businesses.

The DEIR fails to recognize and address or identify the potentially cumulative significant adverse impacts on recreational resources with the introduction of large industrial wind turbine projects in and around a wide variety of recreation areas and resources. The maps in the DEIR do not even show the Lark Canyon OHV Park & Campground or the Cottonwood Campground[134] or all the non-motorized and motorized trails in the Eastern San Diego County BLM Resource Management Plan[135] that are severely impacted by the proposed Tule Wind Project [136]or the Cleveland National Forest, or other areas that the public believes are protected--all of which may be adversely impacted by the Proposed Project/Reduced Project Alternatives.

Trails: None of the trails in the McCain Valley, Sawtooth, Jacumba or Carrizo Gorge area are referenced or documented as being located in the high impact Project Area of influence. See linked BLM map[137]

Air Quality: In addition to increased GHG emissions from construction and operation equipment and load balancing backup generation, there will be an increase in other air pollutants from potentially significant and cumulative impacts from SF6 from proliferating transmission lines, increased loss of vegetation, increased erosion and airborne dust pollutants.

1. Electromagnetic (EMF) Radio Frequency Radiation (RF) and Microwave Radiation (MCR), are a form of air pollution now a recognized carcinogen[138] and can be generated by wind turbines, inverters, transformers, power lines, substations, and wireless communications systems for remote operation of projects.

2. The Proposed and Reduced Projects will subject impacted residents, livestock and wildlife to potentially and cumulatively significant electromagnetic radiation exposures and biological experimentation without protective safety limits and without the public's informed consent.

3. Mounting scientific evidence shows with increasing clarity that wireless radiation is not benign. It harms our bodies, brains, cells, and DNA. Peer-reviewed studies released this year demonstrate this fact, as the following sampling illustrates:

1) **In February 2011, scientific research conducted at the California Institute of Technology** demonstrates, electrical fields as weak as one volt per meter robustly alter the firing of individual (brain) neutrons. Exposure to one volt is in stark contrast to the FCC's allowable exposure limits for cell phones: 47 volts/m for the 800 MHz frequency and 82 volts/m for the 850-1990 MHz range.

2) While the federal government promotes wireless technology nationwide, the World Health Organizations International Agency for Research on Cancer (IARC) announced in May 2011 its decision to classify radio frequency electromagnetic fields as a class 2B possible human carcinogen, like lead and asbestos.

3) Also in May 2011, the Parliamentary Assembly of the Council of Europe (PACE) passed a resolution calling for, among many actions, a ban on WiFi and mobile phone use in schools, stating that children especially need to be protected.

4) **In the February 2011 issue of "The Journal of the American Medical Association," another study from the National Institutes of Health** reports that 50 minutes of exposure to cell phone radiation can affect the normal functioning of the human brain. Dr. David Carpenter, a neurophysiologist and director of the Institute for Health and the Environment at the State University of New York at Albany, comments, *"It is going to be very difficult to deny that RF radiation from a cell phone does not alter nervous system activity."*

[134] BLM East County map Notice of Significant Change: http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/elcentro/planning/2007/fesdrmp.Par.84414.File.dat/SignificantChangeEnergyDev080701.pdf
[135] BLM East County RMP map showing designations and routes of travel: http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/elcentro/planning/2007/fesdrmp.Par.37764.File.dat/resource_planning_p-1.pdf
[136] BLM East County RMP map showing designations and routes of travel: http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/elcentro/planning/2007/fesdrmp.Par.37764.File.dat/resource_planning_p-1.pdf
[137] BLM map: http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/wilderness/maps_1page.Par.68494.File.dat/carrizo_gorge.pdf
[138] Is Dirty Electricity Making You Sick?: http://www.emrpolicy.org/files/prevention_jan_2010.pdf ; Studies demonstrating Biological effects from RFR http://www.emrpolicy.org/science/research/index.htm;

GG-100 Cont.

GG-101

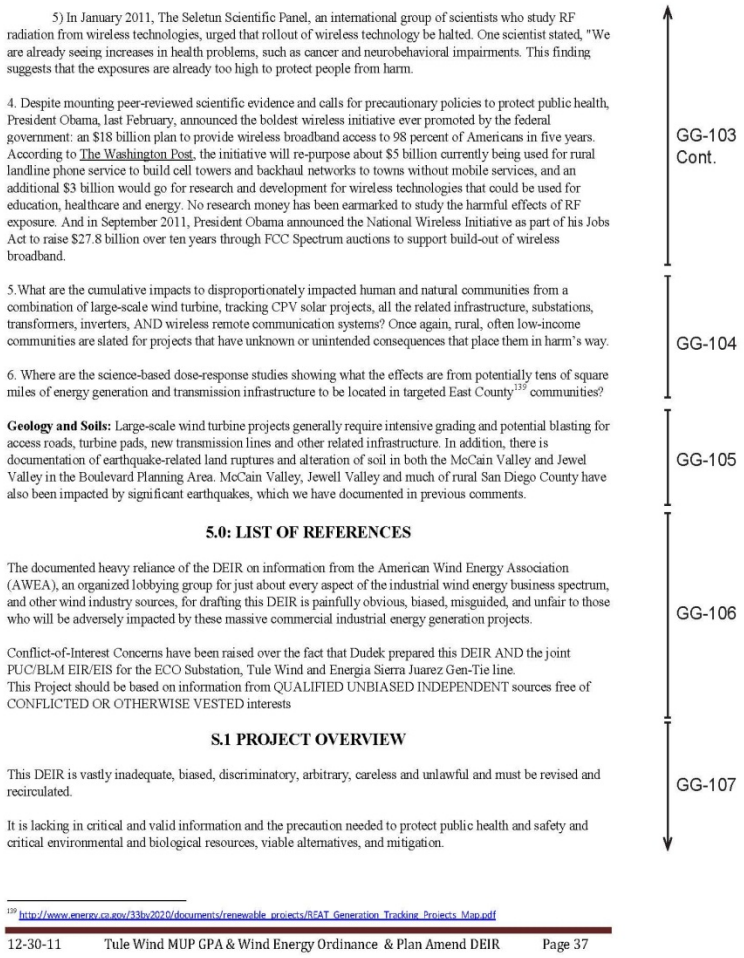
GG-102

GG-103

GG-101 This comment raises concerns with regard to trails; however, the type of potential impact is not clear from this comment. Aesthetic impacts to public trails are discussed in DEIR Section 2.1. Potential conflicts with the County Trails Program and Community Trails Master Plan would be identified during the discretionary review process for large wind turbine projects.

GG-102 The County does not agree with this comment. Section 2.3 of the DEIR identifies potentially significant impacts to air quality based on CEQA Guidelines Appendix G and the County's Guidelines for Determining Significance for Air Quality.

GG-103 The County does not agree with this comment. Concerns regarding electric and magnetic fields (EMF) are discussed in DEIR Section 2.6.7. There is no substantial evidence that EMF, radio frequency or microwave radiation from wind turbines have adverse effects on people and/or the environment. Scientific evidence available to date does not demonstrate a direct causal link between wind turbines and adverse health effects.



5) In January 2011, The Seletun Scientific Panel, an international group of scientists who study RF radiation from wireless technologies, urged that rollout of wireless technology be halted. One scientist stated, "We are already seeing increases in health problems, such as cancer and neurobehavioral impairments. This finding suggests that the exposures are already too high to protect people from harm.

4. Despite mounting peer-reviewed scientific evidence and calls for precautionary policies to protect public health, President Obama, last February, announced the boldest wireless initiative ever promoted by the federal government: an $18 billion plan to provide wireless broadband access to 98 percent of Americans in five years. According to The Washington Post, the initiative will re-purpose about $5 billion currently being used for rural landline phone service to build cell towers and backhaul networks to towns without mobile services, and an additional $3 billion would go for research and development for wireless technologies that could be used for education, healthcare and energy. No research money has been earmarked to study the harmful effects of RF exposure. And in September 2011, President Obama announced the National Wireless Initiative as part of his Jobs Act to raise $27.8 billion over ten years through FCC Spectrum auctions to support build-out of wireless broadband.

5.What are the cumulative impacts to disproportionately impacted human and natural communities from a combination of large-scale wind turbine, tracking CPV solar projects, all the related infrastructure, substations, transformers, inverters, AND wireless remote communication systems? Once again, rural, often low-income communities are slated for projects that have unknown or unintended consequences that place them in harm's way.

6. Where are the science-based dose-response studies showing what the effects are from potentially tens of square miles of energy generation and transmission infrastructure to be located in targeted East County[139] communities?

Geology and Soils: Large-scale wind turbine projects generally require intensive grading and potential blasting for access roads, turbine pads, new transmission lines and other related infrastructure. In addition, there is documentation of earthquake-related land ruptures and alteration of soil in both the McCain Valley and Jewel Valley in the Boulevard Planning Area. McCain Valley, Jewell Valley and much of rural San Diego County have also been impacted by significant earthquakes, which we have documented in previous comments.

5.0: LIST OF REFERENCES

The documented heavy reliance of the DEIR on information from the American Wind Energy Association (AWEA), an organized lobbying group for just about every aspect of the industrial wind energy business spectrum, and other wind industry sources, for drafting this DEIR is painfully obvious, biased, misguided, and unfair to those who will be adversely impacted by these massive commercial industrial energy generation projects.

Conflict-of-Interest Concerns have been raised over the fact that Dudek prepared this DEIR AND the joint PUC/BLM EIR/EIS for the ECO Substation, Tule Wind and Energia Sierra Juarez Gen-Tie line.
This Project should be based on information from QUALIFIED UNBIASED INDEPENDENT sources free of CONFLICTED OR OTHERWISE VESTED interests

S.1 PROJECT OVERVIEW

This DEIR is vastly inadequate, biased, discriminatory, arbitrary, careless and unlawful and must be revised and recirculated.

It is lacking in critical and valid information and the precaution needed to protect public health and safety and critical environmental and biological resources, viable alternatives, and mitigation.

[139] http://www.energy.ca.gov/33by2020/documents/renewable_projects/RPAT_Generation_Tracking_Projects_Map.pdf

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 37

GG-103 Cont.

GG-104

GG-105

GG-106

GG-107

GG-104 To date, the County has not approved any large-scale wind turbine projects. The proposed project would update and clarify the regulations, but does not propose any specific development. Potential direct and cumulative impacts to people and the environment are analyzed in the DEIR.

GG-105 Land modification is heavily regulated by the County. As discussed in Section 3.2.1, Geology and Soils, geologic hazards will be investigated during the discretionary review process for large wind turbine projects.

GG-106 This comment does not raise a significant environmental issue for which a response is required. In particular, the comment does not identify any information or analysis in the EIR that is inaccurate.

GG-107 The County does not agree with this comment. The DEIR closely follows CEQA Guidelines. The level of analysis and the conclusions provided in the DEIR are appropriate for the kind of project being proposed. The County is not proposing specific development at this time, but is proposing a revised ordinance to clarify the regulations for future large wind turbines. Past, present, and probable future projects were included in the cumulative impact analysis. Additional cumulative information has also been added to Table 1-4d since receipt of this comment. The County does not know with certainty where wind turbines will be proposed in

	the future or what specific environmental impacts they will have. To provide a meaningful analysis at this stage, some assumptions were made, and reasonably foreseeable effects were discussed in the DEIR.

Missing information includes the number, size, and cumulative scope, scale and density of projects and/or impacts/effects of currently proposed commercial industrial wind, solar, and transmission AND other large-scale projects. Therefore, this DEIR cannot be legally relied upon to justify, support, evaluate and/or certify the effects the whole of the proposed project and must be revised and re-circulated or outright DENIED.

GG-107 Cont.

What is SDG&E's Master Plan for rural San Diego? Does the County know? It should be part of this DEIR, as it is part of the whole of the project.

GG-108

The protection of viewsheds and the socioeconomic and health values that go with them are critical. However, the DEIR does not provide any explanation or justification for why the viewsheds in the Borrego Community (Plan) are deserving of protection from being "adversely impacted"[140] by large wind turbine projects, through prohibition, while the Boulevard Community Plan is diametrically and discriminately proposed to be AMENDED/gutted in order to facilitate and streamline the permitting of large wind turbines and the related destruction of viewsheds (and so much more) that this DEIR has already identified as Significant and Unavoidable in Table S-1?

GG-109

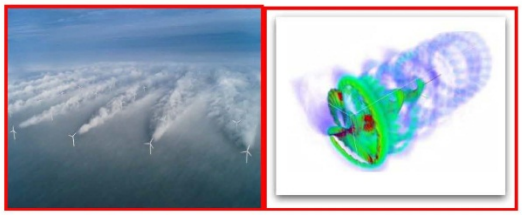
Rural residents in the proposed project area should not be treated any differently than any other County residents who benefit from the protection of scenic resources INCLUDING THOSE WHO LIVE IN URBAN ENCLAVES, ALONG THE COAST OR IN ANZA BORREGO.

GG-110

These massive projects will likely be required to install numerous 20,000- to 30,000-gallon water tanks that will further clutter up rural viewsheds. Some may have to have water trucked in to them.

GG-111

What are the cumulative wind turbine wake effects (WHICH ALSO GIVE AN INDICATION OF NOISE AND VIBRATION IMPACTS) and how will they impact local temperature, air flow,[141] storm systems, rainfall, and related impacts to the current conditions?



GG-112

The wake effects are unknown--as indicated by the ongoing studies in Colorado[142]: From CU-Boulder leading study of wind turbine wakes: *"Today's massive wind turbines stretch into a complicated part of the atmosphere," said Lundquist, who also is a joint appointee at NREL. "If we can understand how gusts and rapid changes in wind direction affect turbine operations and how turbine wakes behave, we can improve design standards, increase efficiency and reduce the cost of energy."*

"Even fluctuations in air temperature throughout the day can affect wind turbine wakes," said Lundquist. "The resulting changes in wake behavior can impact the productivity of wind farms with many rows of turbines, so it's important to observe them in detail and understand how to minimize their impacts."

[140] DEIR page S.1
[141] Wake photos and info: http://www.windturbinesyndrome.com/news/2011/wind-turbine-turbulence-what-are-the-micro-climate-effects/
[142] http://colorado.edu/news/r/de4f104b4d5944697247ebe3a76cb5a5.html

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 38

GG-108 The County does not agree with this comment. San Diego Gas and Electric's plans are not part of this Wind Energy Ordinance project.

GG-109 The scope of the project is based on the need to meet project objectives combined with evaluation of where wind resources occur in the County (see Wind Resources Map in Figure 1-4). Only a small portion of Borrego Springs has sufficient wind resource potential to support large wind turbine projects. That small area also supports Montezuma Valley Road, an important scenic resource. Availability of this scenic area for development of large wind turbines is not essential to support the objectives of the project. Therefore, the GPA for the Borrego Springs Community Plan was modified only to the extent that it would allow for small wind turbine development. Conversely, most of the County's wind resource potential occurs in the Boulevard Community. Based on staff's review, the GPA proposed for the Boulevard Community Plan would be necessary to achieve the objectives of the project..

GG-110 It is unclear what this comment means. For small wind turbines, the proposed project covers all privately owned lands in the unincorporated area of the County. For large wind turbines, the proposed project would be confined to the areas identified on the Wind Resource Map (Figure 1-4). For large wind turbine projects,

	visual resource studies will be required in the site specific environmental review to analyze potential impacts to scenic resources. Mitigation measures would be identified for significant impacts. **GG-111** The County agrees that water tanks may be part of a wind turbine project. All structures must be shown on the Major Use Permit plot plan and will be analyzed for environmental impacts including visual resource impacts. Water supply will also have to be evaluated during the environmental review process. **GG-112** This comment claims that wind turbine wake effects can impact local weather. However, the supporting evidence suggests that wake effects may simply alter wind turbine efficiency. Therefore, this is not an environmental issue. County staff could find no research supporting the assertion that wind turbine wakes affect local weather or microclimate.

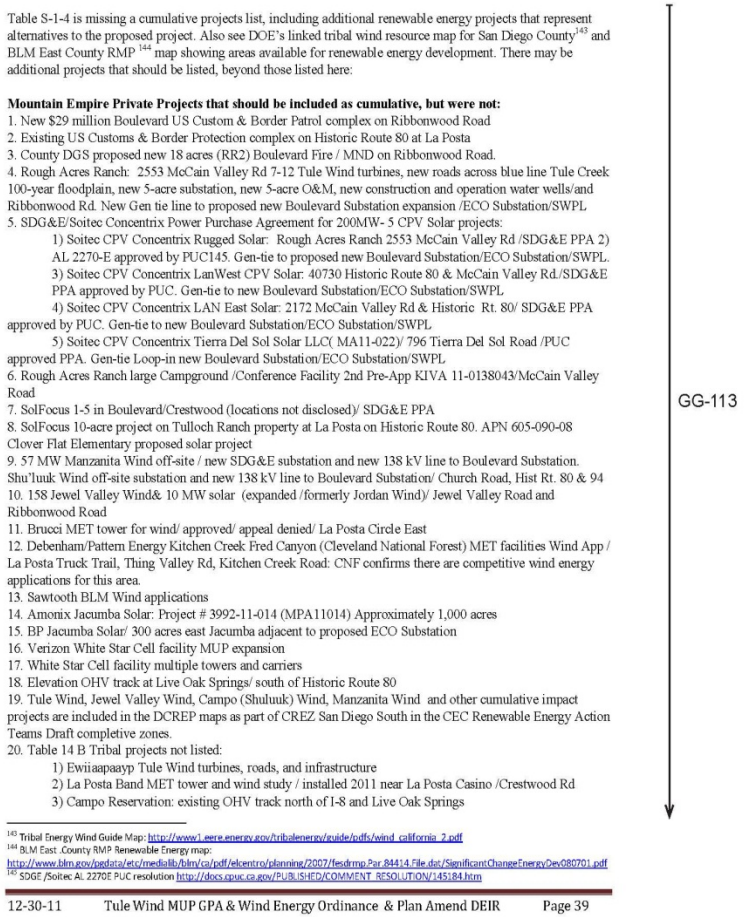


TABLE S-1-4 HAS NO CUMULATIVE PROJECTS LIST

Table S-1-4 is missing a cumulative projects list, including additional renewable energy projects that represent alternatives to the proposed project. Also see DOE's linked tribal wind resource map for San Diego County[143] and BLM East County RMP [144] map showing areas available for renewable energy development. There may be additional projects that should be listed, beyond those listed here:

Mountain Empire Private Projects that should be included as cumulative, but were not:

1. New $29 million Boulevard US Custom & Border Patrol complex on Ribbonwood Road
2. Existing US Customs & Border Protection complex on Historic Route 80 at La Posta
3. County DGS proposed new 18 acres (RR2) Boulevard Fire / MND on Ribbonwood Road.
4. Rough Acres Ranch: 2553 McCain Valley Rd 7-12 Tule Wind turbines, new roads across blue line Tule Creek 100-year floodplain, new 5-acre substation, new 5-acre O&M, new construction and operation water wells/and Ribbonwood Rd. New Gen tie line to proposed new Boulevard Substation expansion /ECO Substation/SWPL
5. SDG&E/Soitec Concentrix Power Purchase Agreement for 200MW- 5 CPV Solar projects:
   1) Soitec CPV Concentrix Rugged Solar: Rough Acres Ranch 2553 McCain Valley Rd /SDG&E PPA 2) AL 2270-E approved by PUC145. Gen-tie to proposed new Boulevard Substation/ECO Substation/SWPL.
   3) Soitec CPV Concentrix LanWest CPV Solar: 40730 Historic Route 80 & McCain Valley Rd./SDG&E PPA approved by PUC. Gen-tie to new Boulevard Substation/ECO Substation/SWPL
   4) Soitec CPV Concentrix LAN East Solar: 2172 McCain Valley Rd & Historic Rt. 80/ SDG&E PPA approved by PUC. Gen-tie to new Boulevard Substation/ECO Substation/SWPL
   5) Soitec CPV Concentrix Tierra Del Sol Solar LLC(MA11-022)/ 796 Tierra Del Sol Road /PUC approved PPA. Gen-tie Loop-in new Boulevard Substation/ECO Substation/SWPL
6. Rough Acres Ranch large Campground /Conference Facility 2nd Pre-App KIVA 11-0138043/McCain Valley Road
7. SolFocus 1-5 in Boulevard/Crestwood (locations not disclosed)/ SDG&E PPA
8. SolFocus 10-acre project on Tulloch Ranch property at La Posta on Historic Route 80. APN 605-090-08 Clover Flat Elementary proposed solar project
9. 57 MW Manzanita Wind off-site / new SDG&E substation and new 138 kV line to Boulevard Substation. Shu'luuk Wind off-site substation and new 138 kV line to Boulevard Substation/ Church Road, Hist Rt. 80 & 94
10. 158 Jewel Valley Wind& 10 MW solar (expanded /formerly Jordan Wind)/ Jewel Valley Road and Ribbonwood Road
11. Brucci MET tower for wind/ approved/ appeal denied/ La Posta Circle East
12. Debenham/Pattern Energy Kitchen Creek Fred Canyon (Cleveland National Forest) MET facilities Wind App / La Posta Truck Trail, Thing Valley Rd, Kitchen Creek Road: CNF confirms there are competitive wind energy applications for this area.
13. Sawtooth BLM Wind applications
14. Amonix Jacumba Solar: Project # 3992-11-014 (MPA11014) Approximately 1,000 acres
15. BP Jacumba Solar/ 300 acres east Jacumba adjacent to proposed ECO Substation
16. Verizon White Star Cell facility MUP expansion
17. White Star Cell facility multiple towers and carriers
18. Elevation OHV track at Live Oak Springs/ south of Historic Route 80
19. Tule Wind, Jewel Valley Wind, Campo (Shuluuk) Wind, Manzanita Wind and other cumulative impact projects are included in the DCREP maps as part of CREZ San Diego South in the CEC Renewable Energy Action Teams Draft completive zones.
20. Table 14 B Tribal projects not listed:
   1) Ewiiaapaayp Tule Wind turbines, roads, and infrastructure
   2) La Posta Band MET tower and wind study / installed 2011 near La Posta Casino /Crestwood Rd
   3) Campo Reservation: existing OHV track north of I-8 and Live Oak Springs

GG-113

[143] Tribal Energy Wind Guide Map: http://www1.eere.energy.gov/tribalenergy/guide/pdfs/wind_california_2.pdf
[144] BLM East .County RMP Renewable Energy map: http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/elcentro/planning/2007/fesdrmp.Par.84414.File.dat/SignificantChangeEnergyDev080701.pdf
[145] SDGE /Soitec AL 2270E PUC resolution http://docs.cpuc.ca.gov/PUBLISHED/COMMENT_RESOLUTION/145184.htm

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 39

GG-113 There is no Table S-1-4 in the DEIR. Table S-1 is a summary of project impacts and need not include cumulative projects or alternatives. Tables 1-4a through 1-4d are lists of some of the cumulative projects analyzed. However, as described in Section 1.7, the County used a combination of the list method and the plan projections method. Therefore, the cumulative analysis in the DEIR represents the projects and projections noted in Section 1.7.

4) Existing Campo Materials & sand mining operations on Church Road between Historic Rt. 80 & 94.

21. Table 1 4c: proposed projects in Mexico not listed;

1) Sempra's 1,250 Energia Sierra Juarez[146,147] (approximately 60 miles of turbines, 5,020MW[148])

2) Sempra's proposed 100MW $500 million Baja SunEnergy[149] project west of Mexicali & planned cross border connection at La Rosita.

3) Sempra's new gasoducto[150] line through Jacume near Jacumba

4) New water pipeline installed through the same area in 2008 or so.

5) Additional wind turbine facilities are planned for Baja Norte for export to California and for use within Baja Norte.

Other major & cumulative impact projects not listed:

1. SDG&E's existing 500kV Southwest Powerlink
2. SDG&E's 500 kV Sunrise Powerlink
3. Sunrise Powerlink Upgrades or new lines to increase capacity by an additional 940MW from current 760MW to 1700MW in order to allow for increased renewable energy generation in CREZ 27 San Diego South and CREZ 30 Imperial South CREZ 31 Imperial North (California Energy Committee's RETI December 2011[151] table 2)
4. SDG&E's Proposed 60- to 85-acre ECO Substation[152] east of Jacumba
ECO Substation's expansion plans for up to 5 -500kV, 9-230 kV and 5-138 kV lines
5. SDG&E's Proposed new 3-acre Boulevard Substation (Initial Study MND dated 9-22-11)
6. SDG&E's Proposed ECO/Boulevard 13.3 mile 138 kV line
7. SDG&E's PUC approved 26MWdc Utility-Owned Generation Solar PV Program AL 2210-E/ Resolution E-4338.[153]
8. Soitec Desert Green: 375 Di Giorgia Road, Borrego
9. Soitec CPV panel assembly manufacturing plant announced for construction in Rancho Bernardo[154]
10. SolFocus Alpine
11. SolFocus Ramona[155]
12. SolFocus 10-21[156] (part of SDG&E Power Purchase Agreement / locations unknown to us)
13. SDG&E's approved PPA with LS Power Associates for 110-130 MW Centinela SolarEnergy LLC [157] energy to be exported to San Diego County from Calexico via SDG&E's Imperial Valley Substation and Sunrise Powerlink
14. SDG&E approved PPA with Solar Gen 2158 for 150MW of solar energy to be exported to San Diego County via SDG&E's Imperial Valley Substation and the Sunrise Powerlink
15. Imperial Irrigation District's $300 million in identified Infrastructure improvements required to move new solar project energy to grid and SDG&E's IV Substation and 2 Powerlinks.[159]
16. IID Dixieland IV Substation 230kV line /new Leibert Substation[160]
17. SDGE PPA for CSolar West161 to connect to IV Substation and Sunrise Powerlink
18. Imperial Valley Solar project: 6,500 BLM Acres[162]

GG-113
Cont.

[146] http://www.sustainablebusiness.com/index.cfm/go/news.display/id/20252
[147] http://www.prnewswire.com/news-releases/sdge-sempra-generation-sign-wind-power-contract-120226294.html
[148] La Rumorosa wind: Power Point with graphics: http://www.bateswhite.com/media/pnc/5/media.265.pdf
[149] Baja Sun Energy: http://www.signonsandiego.com/news/2011/sep/12/planned-solar-project-outside-mexicali-would-gener/
[150] Sempra's border gasoducto (pipeline): http://www.gasoductorosarito.com/English/index.htm
[151] RETI Dec 2011: Table 2 page 21: http://www.energy.ca.gov/2011publications/CEC-100-2011-001/CEC-100-2011-001-LCD.pdf
[152] http://docs.cpuc.ca.gov/efile/RULINGS/154892.pdf
[153] PUC Energy Div approval letter for Soitec LanWest, LanEast, Rugged, Tierra Del Sol, and Desert Green Solar projects dated 4-12-11 http://regarchive.sdge.com/tm2/pdf/2210-E.pdf
[154] Soitec Rancho Bernardo: http://online.ws.com/article/BT-CO-20111216-714819.html
[155] http://www.ramonasentinel.com/2011/12/22/solar-project-questions-remain/
[156] SDG&E SolFocus PPA Advice Letter: http://regarchive.sdge.com/tm2/pdf/2268-E.pdf
[157] PUC approval Centinela Solar PPA: http://regarchive.sdge.com/tm2/pdf/2171-E.pdf
[158] Solar Gen PPA resolution: http://docs.cpuc.ca.gov/PUBLISHED/COMMENT_RESOLUTION/146500.htm
[159] IID's Interconnection Generators Process: http://www.energy.ca.gov/2011_energypolicy/documents/2011-05-17_workshop/presentations/07_Steve_Keene-IID.pdf
[160] http://www.blm.gov/ca/st/en/fo/elcentro/nepa/dixieland.html
[161] Tisdale Imperial Solar Energy Center West DEIR/EIS comments:http://www.affiliatedrecon.com/studies/CA/imperial_County/ISEC/West/Draft_EIR/Comments-Donna-Tisdale-01-14-2011.pdf
[162] http://www.blm.gov/ca/st/en/fo/elcentro/nepa/stirling.html

19. SDGE PPA for 200MW CSolar South[163] to connect to IV Substation and Sunrise Powerlink
20. SDGE PPA for Centinela Solar[164] to connect to IV Substation and Sunrise Powerlink
21. SDG&E's 14 MW Ocotillo Sol[165] to connect to IV Substation and Sunrise Powerlink
22. SDG&E's PPA for 450 MW[166] of gas-fired peaker backup generation to "balance load" from intermittent wind/solar projects--like the Pio Pico Peaker Plant that is currently won initial APCD approval[167]
23. SDG&E's approved PPA for 30MW of re-engineered Mesa Wind[168] energy
24. Desert Conservation Renewable Energy Plan (DCREP) Draft EIR/EIS December 2011 scoping report.[169]
25. RETI Map Dec 2010[170]
26. Desert Conservation Renewable Energy Plan Report [171]
27. CEC's Lead Commissioner's December 2011 Integrated Energy Policy Report (IEPR) shows 29 San Diego County energy projects in the CAISO Grid connection Queue (as of June 1 2011),[172] representing 1094 MW of renewable and 1,453MW of conventional energy:
28. CALISO Q shows many more projects in line as of 12-29-11[173]
29. Kitchen Creek Helitanker facility at Cameron Station north of I-8/Cameron Valley

This list is incomplete due to lack of time. There are approximately 15,000 to 20,000 acres of productive irrigated Imperial County farmland currently slated for conversion to industrial solar.

The total acreages for these cumulative impact projects must be added up and analyzed for regional impacts related to loss, degradation, fragmentation of wildlife habitat, impacts to nesting, foraging and migration, survival, potential loss of carbon sequestration from intact desert, high desert and currently growing crops that are mostly grass crops that reportedly absorb carbon and generate oxygen. You also need to count the backup generation GHG emissions that can be higher from peaker plants that need to ramp up and down quickly to balance a growing intermittent load.

None of the above has been properly assessed in this DEIR.

GG-113 Cont.

S.3 SUMMARY OF SIGNIFICANT EFFECTS AND MITIGATION MEASURES THAT REDUCE OR AVOID SIGNIFICANT EFFECTS

Utilities 3.26: This section erroneously states that the "*Proposed Project would result in less-than-significant impacts to utilities from the development of large wind AND that the proposed project would not impact utilities and service systems including wastewater treatment, imported water supply, and solid waste within the County. Therefore, the proposed project would not contribute to a cumulative impact that would adversely affect utilities and service systems.*" The document adds "*Wind turbines and temporary MET facilities are not anticipated to generate any solid waste, nor place any burden on the existing permitted capacity of any landfill or transfer station within the County. Therefore, the proposed project would not result in significant adverse impacts to utilities and service systems.*"

GG-114

[163] http://www.blm.gov/ca/st/en/fo/elcentro/nepa/isec_south.html
[164] entinela:http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/elcentro/nepa/centinela.Par.46280.File.dat/ca670_ea1128_9references.pdf
[165] http://www.blm.gov/ca/st/en/fo/elcentro/nepa/isec_south.html
[166] SDGE's 450 MW gas-peaker PPA http://www.prnewswire.com/news-releases/sdge-proposes-adding-450-mw-of-local-peaking-power-122455188.html
[167] http://www.energy.ca.gov/sitingcases/piopico/documents/others/2011-12-20_San_Diego_Air_Polution_Control_Districts_Preliminary_Determination_of_Compliance_TN-63192.pdf
[168] http://www.westernwindenergy.com/s/News_Releases.asp?ReportID=498392&_Type=News-Releases&_Title=30-MW-Mesa-Wind-Farm-Executes-New-PPA
[169] http://www.westernwindenergy.com/s/News_Releases.asp?ReportID=498392&_Type=News-Releases&_Title=30-MW-Mesa-Wind-Farm-Executes-New-PPA
[170] RETI Dec 2010 Map showing CREZ 27 San Diego South that includes Eastern San Diego County: http://www.energy.ca.gov/reti/documents/phase2B/Southern%20CA_CREZ_Conceptual_Transmission_Segments_New_and_Existing_Corridors.pdf
[171] http://www.energy.ca.gov/2011publications/CEC-100-2011-001/CEC-100-2011-001-LCD.pdf
[172] Figure 9 pg 87 : http://www.energy.ca.gov/2011publications/CEC-150-2011-002/CEC-150-2011-002-LCF-REV1.pdf
[173] http://www.caiso.com/Documents/ISOGeneratorInterconnectionQueue.pdf

GG-114 See response to comment GG91.

However, this view ignores the mountains of waste that will be generated by these projects:

1. WIND TURBINE BLADES CREATE A MOUNTAIN OF CARBON FIBER WASTE THAT CANNOT BE RECYCLED[174]: Large scale industrial wind turbines have massive composite blades that reportedly cannot currently be recycled: "*Wind turbine blades are not only exploding near people's homes, but they're also causing a large waste problem: the carbon fiber used in the blades isn't recyclable.*"

2. EVEN VESTA'S TURBINE MAKER ADMITS IT CANNOT RECYCLE ITS BLADES IN AN EFFECTIVE MANNER[175] AND the blade disposal problem grows with the number of turbines. What they don't admit is that their wind turbine blades are not lasting the projected 20 years. Instead, they need much more frequent replacement AND disposal than anticipated.

3. THIS MEANS THAT THE COUNTY WILL NEED EXTRA DISPOSAL CAPACITY FOR TONS OF COMPOSITE CARBON FIBER BLADES /WASTE.[176]

GG-115

On rotor blade maintenance[177]: "*Technicians will become more commonplace as wind turbines continue to proliferate and amass operating hours. This is especially so, given that wind farm operators, aware of the reputation of composites for durability, have tended to neglect inspection and preventive maintenance. Many are now learning that turbine blades cannot simply be 'fit and forget' items. They are subject to bird strikes, lightning strikes, leading edge erosion--especially towards the tips that can be moving through the air at around 200 mph--sometimes in sand- and salt-laden air--trailing edge damage and materials fatigue, plus surface erosion from rain, hail, ice and insects. Even without actual damage, surface roughness caused by minor pitting and particle accretion can spoil the aerodynamic efficiency of the blades, detracting from turbine productivity. With a growing number of blades now in service--many well outside their warranty periods--rotor blade maintenance is becoming a major issue.*"

GG-116

From "On wind blade repair: Planning, safety, flexibility,"[178] by Scott Stephenson of Composites Technology: "*Somewhat lost in the buildup of the wind energy industry during the past few years is an important challenge that is getting more attention among wind farm managers and the composites industry: wind blade maintenance and repair. These structures are exposed constantly to mechanical and heat load cycles. Each is struck by lightning at least once in its lifetime, must withstand the force of wind and all the debris it brings with it, and thus, must be regularly maintained to remain functional... Complicating matters, Rosenow notes, is the proprietary nature of resin, fiber and manufacturing systems used in wind blade manufacturing--varying ply patterns and core types, epoxy vs. vinyl ester, infusion vs. prepreg, etc. For repair specialists, who most often don't have access to the original (legacy) material, the challenge is to find composite products (resins, fabrics, adhesives) that are equivalent to the legacy material in the blade.*

"*Further, the blade repair community is, for the most part, unregulated, which results in a variety of repair capabilities among specialists. Blade repair is no trivial matter for wind farm managers. The sources of blade damage include mishandling during delivery and/or installation, lightning strikes, ice, thermal cycling, leading and trailing edge erosion, fatigue, moisture intrusion and foreign object impact (often bullets). An out-of-service turbine can cost $800 to $1,600 (USD) per day, with most repairs taking one to three days. If a crane is required to repair or replace a blade, the cost can run up to $350,000 per week. An average blade repair can cost up to $30,000. A new blade costs, on average, about $200,000. Wind Turbine maintenance and oil changing can also generate waste, including contaminated used oil from gear boxes.*"[179]

GG-117

[174] http://www.caiso.com/Documents/TSOGeneratorInterconnectionQueue.pdf
[175] Vestas:Oct 2010 http://inn10.quadrant.uk.com/uploads/04%20-%20AD%20-%20Vestas%20-%20Recycling%20Project%20121010.pdf
[176] Recycling Wind Blades 6-20-11: http://www.wind-watch.org/documents/recycling-wind-blades/
[177] Blade Repair: http://www.renewableenergyfocus.com/view/21860/the-challenge-of-wind-turbine-blade-repair/

[178] http://www.compositesworld.com/columns/wind-blade-repair-planning-safety-flexibility(2)
[179] Turbine maintenance: http://www.compositesworld.com/columns/wind-blade-repair-planning-safety-flexibility%282%29

GG-115 Removal, replacement and maintenance of turbines will be components of any Major Use Permit that is analyzed for future large wind turbine projects. The proposed ordinance includes provisions in Section 6952.j that require a decommissioning plan and secured agreement for the removal of all components of each large wind turbine and the restoration of the site to a condition compatible with surrounding properties within 180 days of the wind turbine becoming non-operational.

GG-116 This comment seems to raise concerns regarding necessary maintenance of large wind turbines and does not raise an environmental issue.

GG-117 The concerns raised in this comment regarding maintenance costs and logistics are not related to an environmental issue. Concerns regarding the transport, use, or disposal of hazardous materials are addressed in DEIR Section 2.6.3.1.

Blogger John O. Sullivan reports on the findings: "*Dr. Mason cites evidence that many small turbines have collapsed in close proximity to human dwellings, and recently, two big Danish wind turbines lost blades and scattered sharp pieces of glass fiber up to 500 meters from the tower base in high winds. Similar events have also been reported in Sweden, northern England and Scotland. Blade failure can be lethal and catastrophic, as shown by video footage.*"

GG-118

"A gigantic mountain of scrap blades is building up": In a story from Denmark's leading business newspaper Dagbladet Borsen (June 10, 2011) experts warn, "*As the wind becomes a central part of the energy supply, a huge waste problem is growing with similar speed." Windy Scandinavia has hit this unanticipated hurdle because a key material in constructing wind turbines, carbon fiber composite, cannot be recycled and is fast filling landfills or else is being burned, creating toxic emissions. The report admits, "a gigantic mountain of scrap blades is building up."*[180]

GG-119

S. 4 AREAS OF CONTROVERSY

Potentially significant and cumulative groundwater impacts: Section 3.26 admits that. "*The County adopted the San Diego County Groundwater Ordinance in 1991, which establishes regulations for the protection, preservation, and maintenance of groundwater resources. The purpose of the ordinance is to ensure that development will not occur in groundwater-dependent areas of the County unless adequate supplies are available to serve both existing and proposed uses (County of San Diego 1991)"* AND that, *"A significant impact would result if sufficient water supplies are not available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed."*

GG-120

Groundwater impacts can be exacerbated by S.B. 267, sponsored by Senator Michael J. Rubio (D-East Bakersfield), exempts solar PV and wind projects from the requirement to prepare a S.B. 610 water supply assessment[181]. Under the bill, solar photovoltaic and wind energy projects are exempt from the requirement, provided they demand no more than 75 acre-feet of water per year. The bill's authors intentionally omitted solar thermal projects, which traditionally require much larger amounts of water than solar PV projects.

GG-121

Water Assessment Study requirements for wind and non-thermal solar projects: How will this water use waiver for large industrial-scale energy projects impact our fragile groundwater basins and resources in the groundwater-dependent Project Impact Area? How will individual and cumulative impacts be addressed, monitored or mitigated--especially in disproportionately impacted areas like Boulevard and Jacumba? How will adversely impacted private well owners be able to document adverse impacts/well interference in order to be compensated for damages?

GG-122

Seismic/vibration impacts from industrial wind turbines[182] The linked "Seismic Noise by Wind Farms: A case study from the Virgo Gravitational Wave Observatory, Italy" report includes the following: "*Wind turbines are large and vibrating cylindrical towers strongly coupled to the ground through a massive concrete foundation, with rotating turbine blades generating low-frequency acoustic signals noise. The vibrations depicted show a complex spectrum, which includes both time-varying frequency peaks directly related to the blade-passing frequency, and stationary peaks associated with the pendulum modes of the heavy rotor head and tower, and to flexural as in flexing modes of the tower.*

These disturbances propagate via complex paths including directly through the ground or principally through the air and then diving locally into the ground. Though weak, such vibrations may be relevant, once compared to the local levels of seismic noise. Schofield (2001) found that the intense low frequency seismic disturbances from the Stateline Wind Project (Washington-Oregon, USA) were well above the local seismic background till up to distances of 18 km from the turbines. Similar distance ranges were found by Styles et al. (2005), who analyzed the

GG-123

[180] http://www.compositesworld.com/columns/wind-blade-repair-planning-safety-flexibility(2)
[181] MOFO Client Alert: http://www.mofo.com/files/Uploads/Images/110913-2011-California-Renewable-Energy-Legislation-Watershed-Year.pdf
[182] "Seismic Noise by Wind Farms: http://www.windturbinesyndrome.com/news/2011/seismologists-say-wind-turbines-produce-airborne-infrasound-plus-ground-borne-vibration-up-to-6-8-miles-from-the-wind-farm-italy/

GG-118 This comment raises concerns with the safety of small and large wind turbines. Both small and large turbines will be required to comply with the building code and safety standards like all structures permitted by the County.

GG-119 The County appreciates this information. See response to comment GG115 above.

GG-120 The County agrees with this comment.

GG-121 This comment is not related to the proposed project.

GG-122 All Major Use Permits must comply with the County's Groundwater Ordinance. A waiver from having to conduct water supply assessments does not result in a waiver from the Groundwater Ordinance. As discussed in DEIR Section 3.1.2.3.2, future large wind turbine projects that propose to use groundwater will be required to demonstrate an adequate supply of water. In addition, General Plan Policy LU-13.2 requires adequate water supply be identified prior to approval of new development.

GG-123 It is not clear what environmental impact is being suggested by this comment. The DEIR acknowledges that large wind turbines can have significant low-frequency noise impacts. Future large wind turbine projects will be required to prepare a noise study and meet certain standards for low frequency noise. In

	addition, any potential geologic hazards will be investigated during the discretionary review of specific proposed large wind turbine projects.

possible influence of a project wind park at Eskdalemuir (Scotland) in the vicinity of the UK Seismic Array. Fiori et al. (2009) studied the seismic noise generated by a wind park in proximity to the GEO-600 interferometric antenna (Germany), and observed the signal from the turbines till at distances of about 2000m (2km = 1.24 mi)."

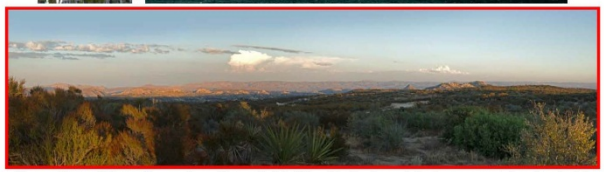
GG-123 Cont.

Smart Grid /meter expenses/ issues /problems including complaints of increased utility bills, adverse health effects, cyber attack vulnerabilities are exposed in two Department of Homeland Security warnings[183]

GG-124

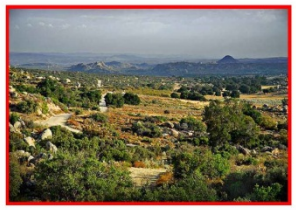
Visual Resources and Values: Large-scale industrial wind turbines are approximately 500 feet tall, with some closer to 600 feet tall. To put that into perspective, San Diego's tallest building, One Plaza is 500 feet tall--about the same as new large industrial wind turbines. Hundreds or even thousands of structures of this scale and scope strung along our uncluttered ridgelines and sloping valleys is unconscionable and can in no way be considered as compatible with bulk and scale of rural land uses. Loss of visual resources and amenities will result in loss of property values and quality of life.

GG-125



Above: View of Sierra Juarez from Tierra Del Sol Road in Boulevard Entire near and far viewshed is planned for industrial wind turbine projects (credit Bill Parsons).

GG-126



Above: McCain Valley in Boulevard is slated for Sunrise Powerlink and Tule Wind. Immediate foreground will be filled with Sunrise Powerlink towers, lines, in addition to Tule Wind power lines and 5-acre substation. Tule Wind turbines are planned for east south west and north of his location that happens to be culturally significant and sensitive.

GG-127

[183] http://www.greentechmedia.com/articles/read/the-top-5-smart-grid-disappointments-of-2011/
[184] San Diego's tallest buildings: http://en.wikipedia.org/wiki/List_of_tallest_buildings_in_San_Diego

GG-124 Based on the statement and the supporting documentation in this comment, it does not appear to raise a significant environmental issue but questions the merits of doing wind energy projects. The commenter's opposition to the project is acknowledged and will be included in the documentation provided to decision makers.

GG-125 The County agrees that large wind turbine projects will have significant aesthetic impacts. This is discussed in Section 2.1 of the DEIR.

GG-126 The County is not proposing to introduce hundreds or thousands of new large wind turbines to the County's backcountry. Rather, the proposed Wind Energy Ordinance would update and clarify the existing regulations for large wind turbines. Future proposals for large turbines will have to undergo environmental review, including the effects to any ridgelines or valleys. See also responses to comments GG66, and GG110.

GG-127 The County appreciates this information. The DEIR includes the stated projects in its cumulative analysis. In addition, future large wind turbine projects will be required to evaluate direct and cumulative impacts on the surrounding environment.

Above: El Monte Valley, El Cap and Golden Eagle. The remaining Golden Eagles will be placed at risk of complete decimation if the Proposed Project or Reduced Large Turbine Project moves forward. They have been undercounted and protections removed or unenforced in order to accommodate unnecessary highly destructive and low performing large-scale wind turbine projects.

GG-128

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 45

GG-128 The County is not aware of the removal of any protections for golden eagle. Any future large wind turbine projects will be required to utilize the latest eagle protection guidelines per mitigation measures M-Bio-1 and M-Bio-2.

Below is the Sunrise Powerlink SunCrest Substation on the previously wild and beautiful Bell Bluff--also home to Golden Eagles and other raptors. (photo credit V.Rusczyk). This is the new reality for residents in the Japatul Valley Area near Alpine and the Cleveland National Forest. How many more rural hilltops, habitats, and valued viewsheds will be blasted off to make way for more of these monster substations that will be needed to move what energy they produce to San Diego, Los Angeles, or beyond? At what cost? What is the cumulative impact?

GG-129

GG-129 See response to comment W3.

The photos on this page, show the Sunrise Powerlink construction damages on Bell Bluff Truck Trail, a raptor wind turbine collision victim, and the Sunrise Powerlink where it exits the Cleveland National Forest near private homes on Star Valley Road just East of Alpine. It is gut wrenching to think what these property owners are going through.

GG-130

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 47

GG-130 The County appreciates this information. Existing and on-going conditions in the region will be a consideration for decision makers during the hearing process for this project.

The top photo on this page shows wind turbine project construction and blight transforming a previously rural farming area. The bottom photo was taken by D. Tisdale the day the SunBird SkyCrane dropped the Sunrise Transmission tower just feet from Historic Route 80 at the Plaster City OHV Park next to SDG&E's large, graded construction site. This is one of many large-scale construction yards that now blight the I-8 corridor, public recreation lands, local neighborhoods and individual private properties, many of which were subjected to eminent domain and lawsuits by SDG&E. Construction has created an almost unbearable living condition for some residents, livestock and wildlife, with constant helicopters and equipment flying overheard. Industrial wind turbine projects are neither scenic nor beautiful and are not good neighbors.

The more that large industrial-scale wind and solar projects are approved in rural San Diego, cumulative impacts like these will be a staggering transformation and permanent reality for humans and wild residents and visitors.

GG-131

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 48

GG-131 See responses to comments GG127 and GG130 above.

THE THREE PHOTOS BELOW, TAKEN IN 2011 BY D. TISDALE, SHOW IMPACTED HOMES THAT ARE NEAR INFIGEN'S KUMEYAAY WIND TURBINES ON LEASED TRIBAL LAND IN BOULEVARD. PEOPLE AND WILDLIFE ARE SUFFERING NOW. THIS IS NOT NECESSARY AND SHOULD NOT BE CONDONED, SUPPORTED, OR ACCOMODATED BY SAN DIEGO COUNTY DECISION MAKERS.

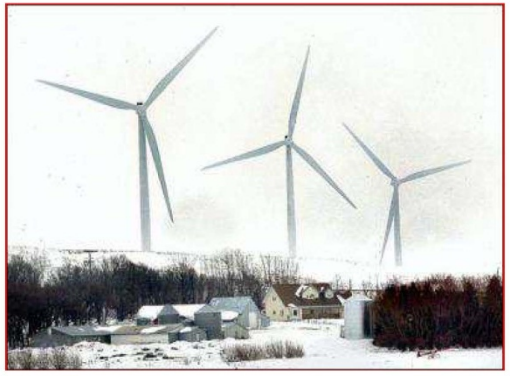
GG-132

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 49

GG-132 See responses to comments GG127 and GG130 above.

This photo shows installation of massive steel transmission poles along McCain Valley Road in Boulevard adjacent to the Walker Canyon Preserve, Bankhead Springs and Historic Route 80 is in the background over the bright orange drilling rig. Nesting Golden Eagles and Bighorn Sheep territory have been witnessed by locals within the last year in this general area.

This photo of actual wind turbines looming over homes, are representative of what is to come to rural San Diego County–DAY AND NIGHT.



12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 50

GG-133

GG-133 See responses to comments GG127 and GG130 above.

More turbines towering over homes and farms. Based on the experiences of previously-impacted communities such as these, there will be virtually no escape for those who live in impacted areas. Even if they wanted to sell and move away from the currently quiet beauty, the word is already out and MET towers are installed. Absentee landowners and developers have little to no regard for the people, the land, or the resources that were previously protected. We wonder if they would move their families to live under these monsters, or next to 1,000 to 5,000 acres of 304 40-foot-tall tracking solar modules that are proposed to cover open pasturelands and irrigated productive farmland? We suspect the real answer, the true answer, would be "NO."

GG-134





GG-134 The County acknowledges the commenter's opposition to the proposed project. The information in this comment will be in the Final EIR for review and consideration by the decision makers.

The photo on the right shows Iberdrola's turbine rotor and all three blades that crashed[185] to the ground after only being in operation for a few months at the company's Rugby Wind facility. Turns out it had faulty bolts as did several others in the same facility. The average blade assembly weighs about 36 tons. AND THESE TURBINES ARE PLANNED TO BE INSTALLED INSIDE LARK CAYNON OHV PARK, AND ADJACENT TO TWO CAMPGROUNDS, HOMES, AND SENSITIVE WILDLIFE AND CULTURALLY SIGNIFICANT AND SENSITIVE AREAS.

GG-135

PAGE ONE PHOTO: The home in the cover photo on this letter belongs to the Hulthen family whose dream home and life have been virtually destroyed by the wind turbines that moved in next door. Note the distance measurements by each turbine in the photo and remember that the Proposed Project will allow turbines at approximately 1/3 the distance of the closest turbine--thanks to the undue influence of the wind industry lobby that includes local absentee land owners.

To read the Hulthen family blog and to see their video clips of shocking shadow flicker that engulfs their home and yard in an eerie strobing effect, go to ***www.lifewithdekalbturbines.blogspot.com*** or this link below.[186]

GG-136

S.6 PROJECT ALTERNATIVES

Energy Efficiency--the low hanging fruit that could slash U.S. energy use by 20%[187]: A McKinsey study found that a global effort to boost efficiency with existing technologies could have "spectacular results," eliminating more than 20% of world energy demand by 2020. Efficiency guru Amory Lovins argues that today's best techniques could save the U.S. half our oil and gas and three-fourths of our electricity. That would mean no more imports from the Middle East, lower utility bills for everyone and a big step off our path toward a hotter planet. Honeywell CEO Dave Cote brags that widespread adoption of just his own company's efficiency products could slash U.S. energy use 20%. "There's a huge amount of low-hanging fruit," he says."

GG-137

[185] http://panchabuta.com/2011/03/31/bolt-failure-cause-of-accident-in-suzlon-powered-spanish-owned-149mw-iberdrola-renewables-wind-farm-in-north-dakota/
[186] http://www.spaw.org/multimedia.php?article=h1;
[187] http://www.time.com/time/magazine/article/0,9171,1869224,00.html

GG-135 See response to comment J13.

GG-136 See response to comment J13.

GG-137 The County appreciates this information and agrees that there are many other methods to reduce energy usage. The County does not believe that increasing the efficiency in energy use should preclude options for allowing wind energy projects. However, this information will be in the Final EIR for review and consideration by the decision makers.

Parking Structures--In the Mountain Empire Subregion alone, there are opportunities to install on-site solar parking shade structures on federal land at the large-scale US Custom & Border Patrol Facilities located on Historic Route Hwy 80[188] at La Posta and the new station on Ribbonwood Road in Boulevard.

There are additional on-site solar opportunities (with tribal interest/approval) on other federal facilities like USFWS housing/operations/stations on tribal lands at existing casino parking lots at Campo's Golden Acorn Casino and La Posta's Casino, and at local tribal offices, education, and health center parking areas, and at the Campo Materials equipment yard.

These types of solar parking shade structures would serve the dual purpose of generating energy while shading and protecting vehicles and other expensive equipment, protecting shade with some protection from damage from full exposure to the sun, wind, and rain. In the summer, cooler cars take less AC energy (GHG) to dispel overheated air from the vehicles' interiors.

Local Solar Power /Local Use: Good compilation of point-of-use renewable energy solutions[189] that don't require converting rural landscapes and resources into industrial energy zones: from the scientists at, and friends of, Basin and Rangewatch.

Independent Energy Solutions (IES): See linked IES June 16, 2011 PowerPoint[190] presentation showing impressive examples of the 300 on-site renewable energy projects (up to 1.2MW) designed and installed by this local woman-owned business, including roof mount, ground mount, solar car ports, off-grid PV/Diesel hybrid, Micro Utility Grid, facility power.

Hamann Companies ICE II[191, 192] LEED-certified project uses 60% less energy and includes 2 solar PV systems (owned by Hamann Companies and SDG&E) that reportedly produce a little over 1MW of energy / 1.7 million kW hours of energy for ICE II and the community.

GG-138

How many properties does Hamann Companies and its numerous affiliates own and/or manage within the County and SDG&E's service territory? Their name seems to be everywhere, especially so in El Cajon. How many solar projects, fuel cells, and/or other renewable energy projects could be installed?

Additional on-site Distributed Generation locations are available across the County at local schools and other public facilities like libraries and community health centers (if well planned, properly installed, grounded and filtered for stray voltage/dirty electricity RFR/), gas station shade covers, warehouse and barn roofs, or ground mounted systems.

All of the projects listed at this Center for Sustainable Energy California link,[193] such as Stone Brewery that generates 30 to 40% of their own energy needs

Case Studies[194] from Solar Novus Today for distributed point-of-use solar energy projects, including remote Navajo Nation projects to provide basic energy and hot water needs for tribal elders: Mark Snyder Electric designed a 2.43 by 6 meter (8 by 20 foot) stand-alone structure that includes all that is needed to power a home. Called the Enertopia Multi-Purpose Utility Structure (EMPUS), the unit is insulated to R-42 and climate controlled. The 2kW solar PV tracking system from Day4 Energy is connected to 16 350-amp hour solar batteries. A unique aspect of the design is that the 500-gallon water tank doubles as a traumwall in that the tank absorbs the warmth during the day, and then lets the heat back out at night when it cools off. Heat is sent into the home

[188] http://www.time.com/time/magazine/article/0,9171,1869224,00.html
[189] http://www.basinandrangewatch.org/Solar-TheSolution.html

[190] IES 6-16-11 PP: http://www.epa.gov/ofacmo/gneb/pdf/2011/2011_0616_mcdougall_presentation.pdf
[191] Hamann affiliate's ICE II: http://www.innovativecold.com/press_021609.htm
[192] ICE II details: http://www.innovativecold.com/suscompro.pdf
[193] http://energycenter.org/index.php/outreach-a-education/annual-events/energy-all-star-awards/past-winners
[194] http://www.solarnovus.com/index.php?option=com_content&view=category&layout=blog&id=77&Itemid=440

GG-138 See responses to comments AA32 and GG137.

through two insulated ducts from the EMPUS. The EMPUS also includes a composting toilet, sink, shower and water catchment.

These projects help reduce the utility rates to the participating property owners who could sell energy back to the grid via potential Feed-in Tariffs, Power Purchase Agreements,[195] the PACE Program,[196] where available, or through various alternative funding options like the Clean Power Finance,[197] Google and the Ygrene Energy-led PACE Consortium for retrofitting commercial buildings like the Empire State Building[198]

Ygrene Energy Fund-led PACE Commercial Consortium[199] launches first $650 million retrofit package for commercial property in Miami-Dade County, Florida and Sacramento, California: "...an independent non-profit, founded by Sir Richard Branson, that harnesses the power of entrepreneurs to unlock gigaton solutions to climate change, announced recently the launch of a new consortium that will unlock billions of dollars of investment in renewable energy and energy efficiency technologies for US commercial real estate. The PACE Commercial Consortium (PCC) integrates the program management and engineering best practices of Lockheed Martin, the financial sophistication of Barclays Capital and the pioneering insurance partnership of Energi and HannoverRe in an end-to-end solution administered by the team's leader, Ygrene Energy Fund.

Alternative point of use distributed generation projects similar to the County's 10 solar projects[200] referenced in the linked article are the Bailey Detention Center solar parking shade structure from the County News Center, including the New Operations Center[201] solar shade structure.

Builders Exceeding Energy Efficiency Goals Through SDG&E's California Advanced Homes Program.[202] From the Building Industry Authority site: *"The building industry recognizes that it needs to be smart and strategic in its energy efficiency building practices, especially with Sacramento asking for ever-greater compliance. The day is coming when the net-zero environment is going to be the standard. An important weapon in our arsenal is our partnership with San Diego Gas & Electric (SDG&E). Through our participation in SDG&E's California Advanced Homes Program (CAHP), San Diego builders have constructed a strong foundation in establishing an energy ethic ... In the program's initial two years in San Diego, SDG&E has already awarded more than $921,000 for nearly 1,700 homes to achieve a savings of 540,000 kWh of electricity and 62,000 therms of natural gas. SDG&E is projected to pay more than $1.9 million in incentives, which will provide 1.3 million kWh and 140,000 therms of natural gas by the end of 2012."*

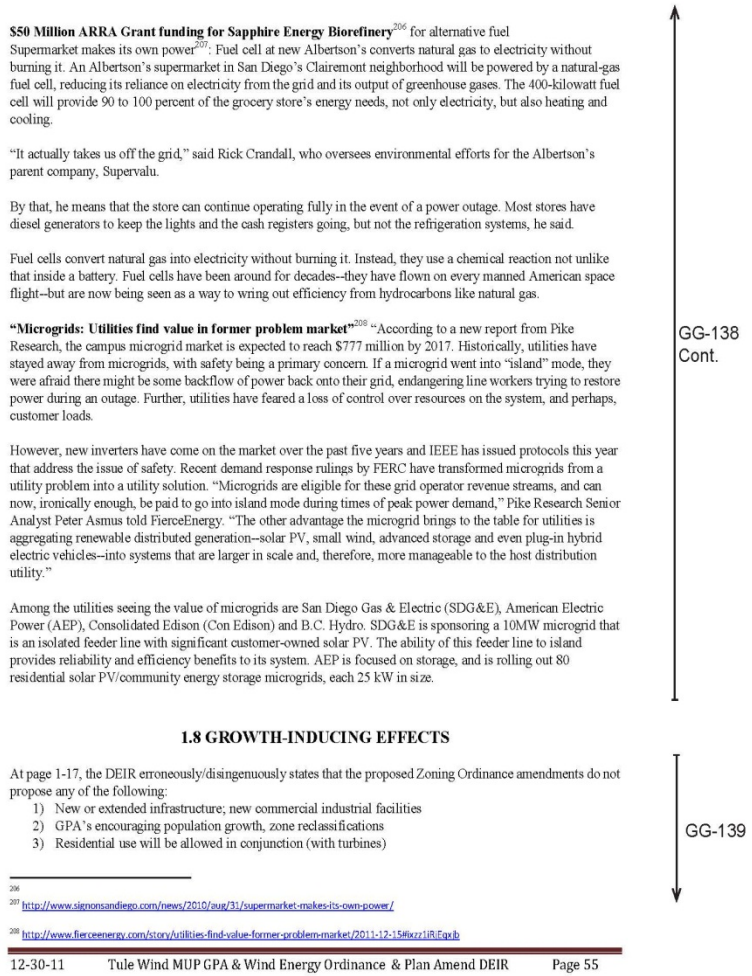
San Diego's Environmental Health Coalition (EHC) promotes local solar over utility scale solar (and other remote projects) based on its studies showing local solar creates more long-term well paid jobs. See linked EHC/Nicole Capretz Power Point presentation from the EPA's June 16 Good Neighbor Environmental Board: Small Scale Solar for Social, Economic, and Environmental Justice.[203]

SDG&E/ Port of San Diego debuts new small wind turbine in park,[204] represent urban point-of-use alternatives. These types of point of use wind turbines could be scattered around the urban and suburban areas, where the communities are willing, and do not necessarily need to clutter up the backcountry.

Port of San Diego considering Renewable Energy Center for waste-to-bioenergy projects[205]

GG-138 Cont.

[195] http://www.solarnovus.com/index.php?option=com_content&view=article&id=3784:financing-commercial-solar-projects&catid=63:business-features&Itemid=242
[196] PACE program explained: http://www.youtube.com/watch?v=qqp9wYkiNAM&feature=player_embedded
[197] http://googleblog.blogspot.com/2011/09/taking-in-more-sun-with-clean-power.html
[198] http://blog.rmi.org/Top_10_Ways_Get_Retrofit_Energy_Efficiency_2012
[199] http://news.carbonwarroom.com/2011/09/19/carbon-war-room-brokered-consortium-set-to-unlock-multi-billion-dollar-global-commercial-property-retrofit-market/
[200] http://www.countynewscenter.com/news/solar-power-switched-county-jail
[201] http://www.sdcounty.ca.gov/Portal/News/2011/Feb/022311solarpanels.html
[202] http://blog.biasandiego.org/2011/12/builders-exceeding-energy-efficiency-goals-through-sdges-california-advanced-homes-program/#more-5079
[203] EHC Capretz GNEB 6-16-11: http://www.epa.gov/ofacmo/gneb/pdf/2011/2011_0616_capretz_presentation.pdf
[204] http://www.sandiegoreader.com/weblogs/news-ticker/2011/dec/23/new-design-for-wind-turbines-debuts-in-san-diego/
[205] http://www.portofsandiego.org/environment/2825-port-of-san-diego-considering-renewable-energy-facility.html



$50 Million ARRA Grant funding for Sapphire Energy Biorefinery[206] for alternative fuel Supermarket makes its own power[207]: Fuel cell at new Albertson's converts natural gas to electricity without burning it. An Albertson's supermarket in San Diego's Clairemont neighborhood will be powered by a natural-gas fuel cell, reducing its reliance on electricity from the grid and its output of greenhouse gases. The 400-kilowatt fuel cell will provide 90 to 100 percent of the grocery store's energy needs, not only electricity, but also heating and cooling.

"It actually takes us off the grid," said Rick Crandall, who oversees environmental efforts for the Albertson's parent company, Supervalu.

By that, he means that the store can continue operating fully in the event of a power outage. Most stores have diesel generators to keep the lights and the cash registers going, but not the refrigeration systems, he said.

Fuel cells convert natural gas into electricity without burning it. Instead, they use a chemical reaction not unlike that inside a battery. Fuel cells have been around for decades--they have flown on every manned American space flight--but are now being seen as a way to wring out efficiency from hydrocarbons like natural gas.

"Microgrids: Utilities find value in former problem market"[208] "According to a new report from Pike Research, the campus microgrid market is expected to reach $777 million by 2017. Historically, utilities have stayed away from microgrids, with safety being a primary concern. If a microgrid went into "island" mode, they were afraid there might be some backflow of power back onto their grid, endangering line workers trying to restore power during an outage. Further, utilities have feared a loss of control over resources on the system, and perhaps, customer loads.

However, new inverters have come on the market over the past five years and IEEE has issued protocols this year that address the issue of safety. Recent demand response rulings by FERC have transformed microgrids from a utility problem into a utility solution. "Microgrids are eligible for these grid operator revenue streams, and can now, ironically enough, be paid to go into island mode during times of peak power demand," Pike Research Senior Analyst Peter Asmus told FierceEnergy. "The other advantage the microgrid brings to the table for utilities is aggregating renewable distributed generation--solar PV, small wind, advanced storage and even plug-in hybrid electric vehicles--into systems that are larger in scale and, therefore, more manageable to the host distribution utility."

Among the utilities seeing the value of microgrids are San Diego Gas & Electric (SDG&E), American Electric Power (AEP), Consolidated Edison (Con Edison) and B.C. Hydro. SDG&E is sponsoring a 10MW microgrid that is an isolated feeder line with significant customer-owned solar PV. The ability of this feeder line to island provides reliability and efficiency benefits to its system. AEP is focused on storage, and is rolling out 80 residential solar PV/community energy storage microgrids, each 25 kW in size.

GG-138 Cont.

1.8 GROWTH-INDUCING EFFECTS

At page 1-17, the DEIR erroneously/disingenuously states that the proposed Zoning Ordinance amendments do not propose any of the following:

1) New or extended infrastructure; new commercial industrial facilities
2) GPA's encouraging population growth, zone reclassifications
3) Residential use will be allowed in conjunction (with turbines)

GG-139

[206]
[207] http://www.signonsandiego.com/news/2010/aug/31/supermarket-makes-its-own-power/

[208] http://www.fierceenergy.com/story/utilities-find-value-former-problem-market/2011-12-15#ixzz1iRiEqxlb

12-30-11 Tule Wind MUP GPA & Wind Energy Ordinance & Plan Amend DEIR Page 55

GG-139 The growth-inducing effects discussion in Section 1.8 of the DEIR was prepared in accordance with CEQA Guidelines. The full text in the DEIR is as follows: "Additionally, the development of wind turbines and MET facilities would not induce substantial population growth. The proposed Zoning Ordinance amendments do not propose any physical or regulatory changes that would remove a restriction to or encourage population growth in an area including, but not limited to, the following: new or extended infrastructure or public facilities; new commercial or industrial facilities; large-scale residential development; accelerated conversion of homes to commercial or multifamily use; regulatory changes including GPAs encouraging population growth, specific plan amendments, zone reclassifications, or sewer or water annexations; or Local Agency Formation Commission annexation actions. Although the uses supported by wind turbines or MET facilities may expand, residential uses will continue to be allowed in conjunction with those uses. Wind turbines would supplement residential use and would not encourage housing growth in the County. Additionally, the project does not increase density or intensity of land use." The proposed project is an ordinance to permit future turbines. It does not propose growth-inducing infrastructure, increased residential density, or mixed uses of residential with industrial.

4) Project does not increase density or intensity of use

Response to # 1) The proposed increased expansion of large/industrial scale wind turbine projects require the expansion and/or upgrades of new and/or existing utility transmission infrastructure--an entire new web of wires and towers.

Response to # 2) The General Plan Amendments and reduced setbacks are basic and virtual zone reclassifications that can result in conversion to high-density industrial uses. BLM already unlawfully downzoned McCain Valley from high Visual Resource Management Classification to the lowest industrial zone. That decision is still in the 9th Circuit Court of Appeals.

Response to # 3) Existing residential uses and investments will now be abutted by industrial energy generation and transmission infrastructure. Most new community plans try to avoid mingling polluting and unhealthy industry with residential uses--look at the controversy over FAT CITY being turned into housing next to Solar Turbine industrial uses.

Response to # 4) The introduction of high intensity industrial uses that could be highly concentrated in disproportionately impacted areas cannot be described as anything **other** than increasing density and intensity of use. It is what it is!

The proposed Zoning Ordinance and General Plan amendments include reduced turbine setbacks and potential noise measurement waivers in order to facilitate and streamline wind turbine permitting, which represents potentially significant and cumulative adverse effects/impacts by increasing the numbers of large wind turbines and expanding the locations they can be "facilitated."

GG-139 Cont.

GG-140

ADDITIONAL REASONS FOR OPPOSITION

1. In addition to other identified wind resource areas and proposed projects on BLM, Cleveland National Forest, State Lands Commission, and tribal lands located in rural San Diego County,[209] the Proposed Project will affect a reported additional 807,984[210] acres of known wind resource areas under County jurisdiction.
What is the cumulative number of identified wind resource acreage within San Diego County, including other jurisdictions, and off the coast?[211] This information should be included and analyzed for cumulative impacts to all resources and categories.

GG-141

2. **The identified Environmentally Superior Reduced Turbine Alternative still affects approximately 402,884[212] acres** of fire-prone,[213] biologically sensitive rural areas and many of the same impacts would remain significant and unavoidable.[214] To put this amount of acreage into perspective, all of Imperial Valley's irrigated farmland covers approximately 500,000 acres.[215]

GG-142

3. After more than a decade of regional efforts, San Diego County's updated General Plan and community plans, including the updated Boulevard Community Plan, were approved by the Board of Supervisors in August 2011.[216]

GG-143

[209] Cumulative Impact Projects Map in joint PUC/BLM EIR/EIS for ECO Substation, Tule Wind and Energia Sierra Juarez Gen-tie line: http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/ECO_Draft_EIR.htm
[210] POD1007: Figure 1-4
[211] http://www.windpoweringamerica.gov/maps_template.asp?stateab=ca
[212] POD1007: Page 5.1-7
[213] SDGE & Wildfires: http://www.voiceofsandiego.org/this_just_in/article_26776b56-ed62-11e0-b673-001cc4c002e0.html
[214] POD1007: Page 5.1-7
[215] NYT Empty fields fill urban basins and farmers pockets: http://www.nwra.org/content/articles/empty-fields-fill-urban-basins-and-farmers-pockets/
[216] http://www.sdcounty.ca.gov/dplu/press/Supervisors_Approve_GPUpdate_8-3-2011.html

GG-140 The project proposes to update regulations for large wind turbines to be consistent with current wind turbine technology and designs. Setbacks are not necessarily reduced but are based on new criteria due to updated technologies and better information. Some projects may be eligible for exceptions/waivers to the proposed noise restrictions on a case-by-case basis. The impacts that may result from such cases were analyzed in DEIR Section 2.8. The potentially significant direct and cumulative impacts of the project are analyzed in the DEIR.

GG-141 The information requested in this comment is available through National Renewable Energy Laboratory (NREL): http://www.nrel.gov/gis/pdfs/eere_wind/eere_windon_h_california.pdf. As shown on their wind resource data map, the vast majority of the County coastline and incorporated jurisdictions are categorized with a Wind Power Classification of "poor". This Wind Power Class is generally considered less than ideal for wind turbine development. The County does not agree that all wind resource areas need to be analyzed in the cumulative impacts analysis. The wind resource data available through NREL provides a geographic scope for the cumulative impact study, while the past, present and probable future projects discussed in the DEIR provide the basis for the impacts analysis.

	GG-142 Issues raised in this comment are not inconsistent with the existing content of the DEIR. **GG-143** See responses to comments GG80 and GG140.

4. Those plans should not be amended [217] (as proposed) in a manner that reduces hard-won protections for rural communities, impacted property owners,[218] sensitive habitats, wildlife and other critical resources, in order to facilitate and streamline the permitting of unnecessary, disruptive, noisy,[219] and very expensive[220] large-scale commercial industrial wind energy projects.

5. Large-scale industrial wind turbine projects have already proven to be visually, audibly, inaudibly, physically, emotionally and economically disruptive[221, 222, 223] to sensitive receptors that include impacted communities, people,[224] pets, livestock,[225] wildlife, habitat, recreation areas.

6. Reports touted by the wind industry, including their lobbying arm, AWEA, which is relied on in this DEIR,[226] and other supporters, alleging that there are no adverse health, property value or other effects related to wind turbine projects,[227] have been thoroughly discredited and countered by numerous opposing reports, studies, documents and firsthand interviews with wind turbine victims and those working to stop their suffering--as disclosed in this comment letter and cited references.

The professional Peer Review Acoustic Assessment of Flyers Creek Wind Farm[228] by the Acoustics Group PTY LTD, Dated 15th December, 2011, contains the following statement: "*Initial results from preliminary testing at the Capital Wind Farm have been found to confirm concerns that the Flyers Creek Wind Farm will result in the generation of intrusive and offensive noise. Testing has demonstrated that the Capital Wind Farm is generating audible noise significantly above predicted levels and above levels prescribed by its consent at the residential site tested. These noise levels validate complaints of significant adverse impacts. Preliminary testing at the Capital Wind Farm demonstrates low frequency noise and infrasound at levels and fluctuations likely to impact on residents. On the basis of the above, The Acoustic Group has found that approval of the Flyers Creek Wind Farm proposal would expose the surrounding community to intrusive and offensive noise and would leave the approval authority, land owners and the proponent open to litigation and complaint accordingly.*"

For the record, please note that The Capital Wind Farm referenced in the Flyers Creek Wind Farm Acoustic Assessment, where the intrusive and offensive noise and low frequency noise and infrasound levels and fluctuations were measured that "validated complaints of significant adverse impacts," is owned by Infigen, the same company that owns Kumeyaay Wind located on tribal lands in Boulevard that has generated similar complaints of adverse impacts from impacted neighbors[229] in a radius of approximately 3 miles.[230]

Summary of new evidence: "Adverse health effects and industrial wind turbines," August 2011[231] by Carmen M.E. Krogh, Bsc Pharm, and Brett S. Horner, BA, CMA, includes the following conclusions:

1. Experts who have conducted original research and/or published peer-reviewed articles in scientific journals confirm that industrial wind turbines can harm human health if they are not sited properly.

2. Acknowledged adverse health effects include: annoyance, stress, sleep disturbance, headache, tinnitus, ear pressure, dizziness, vertigo, nausea, visual blurring, tachycardia, irritability, problems with concentration and memory, and panic episodes associated with sensations of internal pulsation or quivering when awake or asleep.

GG-143 Cont.

GG-144

GG-145

GG-146

GG-147

[217] Wind Energy Ordinance & Plan Amendment DEIR http://www.sdcounty.ca.gov/dplu/ceqa/POD10007.html
[218] Gag orders for turbine victim buyouts: http://www.epaw.org/documents.php?lang=en&article=n17
[219] http://www.epaw.org/multimedia.php?lang=en&article=n1
[220] The High Cost of Wind Energy as Carbon Dioxide Reduction Method 9 (with 62 end notes): http://www.manhattan-institute.org/html/ib_11.htm
[221] Video clip from Realwindinfoforme.com http://www.youtube.com/watch?v=9_8NGwu5i8k
[222] Letters from wind farm neighbors: http://www.savewesternny.org/docs/letters.html
[223] Excerpts from Lincoln township wind turbine moratorium committee: http://www.savewesternny.org/docs/lincolnmoratorium.html
[224] http://www.wind-watch.org/documents/re-acciones-waubra-wind-farm-victoria-australia/
[225] Video turbine neighbors including livestock owner with damages: http://www.wind-watch.org/documents/category/impacts/
[226] DEIR list of References at 5.0
[227] http://www.nawindpower.com/e107_plugins/content/content.php?content.9113
[228] http://www.wind-watch.org/documents/peer-review-of-acoustic-assessment-flyers-creek-wind-farm/; http://docs.wind-watch.org/Cooper_S_Flyers_Ck.pdf
[229] http://eastcountymagazine.org/node/7799
[230] http://eastcountymagazine.org/node/7799
[231] http://www.wind-watch.org/documents/summary-of-new-evidence-adverse-health-effects-and-industrial-wind-turbines-august-2011/

GG-144 See responses to comments B2, K10, V5, AA3, GG41, GG59, and GG86.

GG-145 See responses to comments F1, V2, AA34, and II8.

GG-146 See responses to comments V5, GG59, and GG86.

GG-147 See responses to comments F1 and V2.

3. Other adverse impacts include reduced well-being, degraded living conditions, and adverse societal and economic impacts. These adverse impacts culminate in expressions of a loss of fairness and social justice.

The above impacts in conclusion 3 represent a serious degradation of health in accordance with commonly accepted definitions of health as defined by the WHO and the Ottawa Charter for Health Promotion.
It is expected that, at typical setbacks and the noise study approach currently being used in Ontario to approve the siting of industrial wind turbines, a nontrivial percentage of exposed individuals will experience serious degradation of health.

Harm to human health can be avoided with science-based regulations based on research conducted on human response to industrial wind turbine exposure.

Experts who have conducted original research and/or published peer-reviewed articles in scientific journals confirm that research is required to establish science-based industrial wind turbine regulations to protect human health.

Until science-based research has been conducted, industrial wind turbines should not be sited in proximity to human habitation.

Please note that the references in #10 above, regarding Ontario, are applicable here, as well--wind turbines don't recognize or distinguish between borders or authorities.

The linked Bruce McPherson "Infrasound and Low Frequency Noise Study Adverse Health Effects Produced By Large Industrial Wind Turbines Confirmed," by Stephan E. Ambrose, INCE (Brd Cert) and Robert W. Rand, INCE Member,[232] dated December 14, 2011, was conducted at the home of the neighbor of an industrial wind turbine located in Falmouth, Massachusetts. The professional study contains the following information about health effects:

The investigators were surprised to experience the same adverse health symptoms described by neighbors living at this house and near other large industrial wind turbine sites. The onset of adverse health effects was swift, within twenty minutes, and persisted for some time after leaving the study area. The dBA and dBC levels and modulations did not correlate to the health effects experienced. However, the strength and modulation of the un-weighted and dBG-weighted levels increased indoors consistent with worsened health effects experienced indoors. The dBG- weighted level appeared to be controlled by in-flow turbulence and exceeded physiological thresholds for response to low frequency and infrasonic acoustic energy as theorized by Salt. The wind turbine tone at 22.9 Hz was not audible yet the modulated amplitudes regularly exceeded vestibular detection thresholds. The 22.9 Hz tone lies in the brain's "high Beta" wave range (associated with alert state, anxiety, and "fight or flight" stress reactions). The brain's frequency following response (FFR) could be involved in maintaining an alert state during sleeping hours, which could lead to health effects. Sleep was disturbed during the study when the wind turbine operated with hub height wind speeds above 10 m/s. It took about a week to recover from the adverse health effects experienced during the study, with lingering recurring nausea and vertigo for almost seven weeks for one of the investigators.

The linked "Unvarnished Truth: Shirley Wind Project Health Impacts" video includes interviews[233] with five families living near the Shirley Wind project that started operation in December 2010 in Glenmore Wisconsin. There, residents have experienced serious adverse health effects and/or suffered significant loss of livestock and related farm income, including illness, death, lameness and reduced milk production--all since the wind turbines started operating in their neighborhood. They also report that wildlife, even crickets, are dying or have almost disappeared. Several families have now abandoned their homes. These turbine-related problems have resulted in adverse economic impacts.

[232] http://www.wind-watch.org/documents/bruce-mcpherson-infrasound-and-low-frequency-noise-study/
[233] http://www.wind-watch.org/documents/category/impacts/

GG-147 Cont.

GG-148

GG-149

GG-148 See response to comment V3.

GG-149 See responses to comments F1 and GG86.

The linked report, "Properly Interpreting the Epidemiological Evidence about the Health Effects of Industrial Wind Turbines on Nearby Residents,"[234] by Carl V Phillips, PhD, Populi Health Institute, contains the following information: Abstract: There is overwhelming evidence that wind turbines cause serious health problems in nearby residents, usually stress-disorder type diseases, at a nontrivial rate. The bulk of the evidence takes the form of thousands of adverse event reports. There is also a small amount of systematically gathered data. The adverse event reports provide compelling evidence of the seriousness of the problems and of causation in this case because of their volume, the ease of observing exposure and outcome incidence, and case-crossover data. Proponents of turbines have sought to deny these problems by making a collection of contradictory claims including that the evidence does not "count," the outcomes are not "real" diseases, the outcomes are the victims' own fault, and that acoustical models cannot explain why there are health problems so the problems must not exist. These claims appeared to have swayed many non-expert observers, though they are easily debunked. Moreover, though the failure of models to explain the observed problems does not deny the problems, it does mean that we do not know what, other than kilometers of distance, could sufficiently mitigate the effects. There has been no policy analysis that justifies imposing these effects on local residents. The attempts to deny the evidence cannot be seen as honest scientific disagreement, and represent either gross incompetence or intentional bias.

GG-150

"No Safe Place,"[235] **Dr Robert McMurtry's 13-minute video interview (posted Aug 13, 2011) discusses his transformation from a supporter**, wanting a wind turbine on his property, to an opponent reaching out to educate people on the adverse impacts of on industrial wind turbine projects. He discusses his experience with adverse effects on people (some have abandoned their homes), places, wildlife, livestock, peace and quiet, property values, division of families and communities, community vitality, tourism, and more. He concludes that the adverse health effects are real, they are global, and there are no evidence-based guidelines for safe setbacks of wind turbines from homes. Research is required, but preliminary research suggests a minimum of 2 km (about 1.25 miles).

GG-151

"**Mitigating the Acoustic Impacts of Modern Technologies: Acoustic, Health, and Psychosocial Factors Informing Wind Farm Placement** "[236] by Daniel Shepard and Rex Billington, published in the August 2011 edition of the Bulletin of Science and Technology includes the following abstract statement: Abstract: Wind turbine noise is annoying and has been linked to increased levels of psychological distress, stress, difficulty falling asleep, and sleep interruption. For these reasons, there is a need for competently designed noise standards to safeguard community health and well-being. The authors identify key considerations for the development of wind turbine noise standards, which emphasize a more social and humanistic approach to the assessment of new energy technologies in society

GG-152

"Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem" published by the Board on Health Sciences Policy[237] **includes the following summary (excerpt):** "*The cumulative long-term effects of sleep deprivation and sleep disorders have been associated with a wide range of deleterious health consequences including an increased risk of hypertension, diabetes, obesity, depression, heart attack, and stroke. The Institute of Medicine (IOM) Committee on Sleep Medicine and Research concluded that although clinical activities and scientific opportunities in the field are expanding, awareness among the general public and health care professionals is low, given the magnitude of the burden.*"

GG-153

In his book "Dirty Electricity,"[238] **Dr Samuel Milham, MD, MPH, documents the links between exposures to electromagnetic/radio frequency pollution to diseases in society**, including cancer, saying we may be facing an epidemic of morbidity and mortality. See Dr. Milham's papers and other information at his website[239] and microwavenews.com.[240] The author of this letter has seen firsthand evidence of extremely high levels of stray

GG-154

[234] http://www.wind-watch.org/documents/properly-interpreting-the-epidemiologic-evidence-about-the-health-effects-of-industrial-wind-turbines-on-nearby-residents/
[235] No Safe Place: http://www.wind-watch.org/documents/no-safe-place/
[236] http://www.wind-watch.org/documents/mitigating-the-acoustic-impacts-of-modern-technologies-acoustic-health-and-psychosocial-factors-informing-wind-farm-placement/; http://bst.sagepub.com/content/early/2011/08/16/0270467611417841
[237] Sleep Disorders & Deprivation: http://www.nap.edu/openbook.php?record_id=11617&page=1
[238] Dirty Electricity: http://www.sammilham.com/
[239] http://www.sammilham.com/links.shtm
[240] http://www.microwavenews.com/milham.html

GG-150 See responses to comments F1 and V2.

GG-151 The proposed ordinance will require setbacks from residents due to the low frequency noise regulations (see Appendix A to these responses to comments for examples). See also responses to comments F1, J18, V2.

GG-152 See responses to comments V5, GG59, and GG86.

GG-153 See responses to comments F1 and V2.

GG-154 See response to comment GG103.

voltage both inside and outside the home of a wind turbine neighbor, and spoken firsthand to other victims who are suffering, or have abandoned their homes to avoid further suffering.

Proposed Case Definition: Adverse Health Effects and Industrial Wind Turbines[241]: The Society for Wind Vigilance proposes this linked case definition to assist clinicians in the assessment of patients presenting with a complex set of symptoms related to living within 2 km of an industrial wind turbine facility.

POINT-OF-USE DISTRIBUTED GENERATION IS LESS EXPENSIVE, SAFER AND MORE COST-EFFECTIVE FOR TAXPAYERS AND RATEPAYERS

There are preferable and viable distributed generation[242, 243] renewable energy options[244] at or near the point-of-use,[245] such as reducing demand by applying energy efficiency options, installing solar panels on rooftops,[246] on parking shade structures, and individual tracking solar modules[247] where already disturbed non-controversial space allows.

Examples of such projects include the Solar Strong Project with up to 300MW of solar installations proposed at 124 military housing units[248, 249] and Los Angeles's first Gen 7 Zero Net Energy Solar classrooms,[250] combined heat and power units that capture and use waste heat and/fuel cells[251,252, 253] located at new and existing structures, and solar[254] and landfill gas-to-energy projects installed on closed landfills--that do not require extensive new power lines or large substations that can result in eminent domain, disruption and fragmentation of impacted human and /or natural communities.

Large-scale industrial wind turbine projects require an extensive land base, and air space, in addition to new power line[255] and substation[256] projects that represent an increased risk of catastrophic wildfires[257] in underserved fire-prone rural areas through potential malfunctioning turbine equipment [258, 259, 260] and related

GG-154 Cont.

GG-155

GG-156

[241] Case Definition: http://www.wind-watch.org/documents/proposed-case-definition-adverse-health-effects-and-industrial-wind-turbines/
[242]Soitec's Plug & Sun: http://www.solarnovus.com/index.php?option=com_content&view=article&id=590:solfocus-to-power-concentrator-pv-station-in-australia&catid=41:applications-tech-news&Itemid=245
[243] Kaiser adds 15 MW at 15 facilities: http://www.solarnovus.com/index.php?option=com_content&view=article&id=497:kaiser-permanente-to-energize-15-california-facilities-with-solar-power-&catid=41:applications-tech-news&Itemid=245
[244] Kohl's Dept stores add more solar: http://www.solarnovus.com/index.php?option=com_content&view=article&id=506:kohls-department-store-to-add-more-solar&catid=37:business-news&Itemid=241
[245] http://solardoneright.org/index.php/briefings/category/C6/
[246] http://solardoneright.org/index.php/news/post/rooftop_solar_charges_ahead/
[247] http://www.solarnovus.com/index.php?option=com_content&view=article&id=3985:soitec-releases-portable-cpv-mini-tracker&catid=54:new-products&Itemid=427
[248] Solar Strong project: http://questpointsolarsolutions.com/?p=14818
[249 250] Solar Strong and other military projects: http://www.greentechmedia.com/articles/read/SolarCity-and-SolarStrong-Return-Stronger-Without-the-DOE/
[250] http://questpointsolarsolutions.com/?p=14896
[251] Fuel cells: http://www.clearedgepower.com/energy-independence/alternative-local-generation;
http://greencomplianceplus.markenglisharchitects.com/interviews/fuel-cells-offer-clean-burning-efficient-heat-power/
[252] http://www.clearedgepower.com/energy-independence/going-beyond-transmission-loss
http://www.clearedgepower.com/business/clean-energy-action-san-diego-state-university
[253] Village Lindo Paseo: http://www.clearedgepower.com/business/clean-energy-action-san-diego-state-university
[254] http://www.waste-management-world.com/index/display/article-display/0653098252/articles/waste-management-world/landfill/2011/12/5MW_Solar_Facility_Planned_at_Closed_Ontario_Landfill.html?cmpid=EnlWMW_WTEJanuary52012
[255] http://attorneypages.com/hot/sdge-lawsuit-in-california-fire.htm; http://law.freeadvice.com/insurance_law/insurance_law/sdge-settles-2007-california-wildfire-lawsuit.htm
[256] Video of SDG&E's Dec 22-23, 2010 Escondido Substation fire: http://www.youtube.com/watch?v=iEHypo9i4fU&feature=related;
http://www.signonsandiego.com/news/2010/dec/23/oil-burn-kicking-out-black-smoke-escondido/
[257] http://www.signonsandiego.com/news/2011/dec/16/sdge-pay-county-245-million-2007-fires/
[258] Wind turbine explodes in hurricane force winds: http://www.dailymail.co.uk/news/article-2071633/UK-weather-Wind-turbine-EXPLODES-hurricane-force-gusts-batter-Northern-Britain.html
[259] http://www.smartplanet.com/blog/thinking-tech/wind-turbine-explodes-generates-controversy-video/9476
[260] 2009Turbine fire: http://www.countryguardian.net/uelzenturbine%20with%20text.jpg

GG-155 See responses to comments AA32 and GG137.

GG-156 The issues raised in this comment are not inconsistent with the content of the DEIR. Please refer to DEIR Section 2.6.3.7. It should be noted, however, that issues related to fire insurance rates/coverage were not discussed in the DEIR since this topic is not related to environmental impacts. See CEQA Guidelines section 15131.

infrastructure that can result in catastrophic wildfires[261], increased fire insurance rates, or loss of fire insurance coverage due to increased risk.

Increasing reliance on remote generation of intermittent energy reliant on extensive transmission lines that are vulnerable to increased outages and average line loss of 10 to 15%[262] does not increase reliability, it can actually destabilize the grid and increase risk of surges, brownouts, catastrophic failure, and the related damages to public and private property and expenses.

Industrial wind turbine projects, are not a "civic use." They are for-profit commercial industrial energy generation and transmission projects and should be recognized as such, regardless of which community or sensitive lands they are proposed in or adjacent to.

Large-scale industrial wind turbine projects, with turbines of 1.5-3MW and up to approximately 400 to 600 feet tall, are not compatible in bulk and scale with historic rural land uses, under County authority, and represent a degrading and invasive visual intrusion,[263] day and night (with FAA required lighting), regardless of which San Diego County community's viewshed is impacted.

Wind turbine generated noise[264, 265] vibrations, and/or dirty electricity emissions[266] and adverse health effects have been documented up to 10 km (6.21 miles) of industrial wind energy projects[267] and substations, with dozens of homes reportedly abandoned near wind projects in the US, Australia, Canada, Japan, and throughout Europe as documented by the information readily available on the websites of various groups including The Society for Wind Vigilance,[268] The Waubra Foundation[269], European Platform Against Windfarms,[270] North American Platform Against Windfarms,[271] Industrial Wind Action, [272] National Wind Watch,[273] Dr. Nina Pierpont,[274] various other professionals and clinicians and others.

The adverse health effects reported globally, and locally at the existing 50MW Kumeyaay Wind project in Boulevard, by impacted wind turbine neighbors include the following:

- Chronic severe sleep deprivation
- Acute hypertensive crises
- New onset hypertension
- Heart attacks (including Tako Tsubo episodes)
- Worsening control of preexisting and previously stable medical problems such as angina, hypertension (high 6. blood pressure), diabetes, migraines, tinnitus, depression, and post-traumatic stress disorder
- Severe depression, with suicidal ideation
- Development of irreversible memory dysfunction, tinnitus, upper respiratory and sinus problems, and hyperacusis

In San Diego County's Building Better Health Plan's 2010 annual report,[275] CEO Walt Ekart proudly proclaims in the cover letter that: "*We are pursuing health in all policies.*" **Yet, the County has failed to adequately consider health in its proposed Wind Energy Ordinance.**

[261] 2011 turbine fire: http://www.newscientist.com/blogs/onepercent/2011/12/why-did-a-wind-turbine-self-co.html
[262] http://www.clearedgepower.com/energy-independence/going-beyond-transmission-loss
[263] Photos of ridgeline turbines: http://www.epaw.org/multimedia.php?lang=en&article=d1
[264] Flaming debris: Wind Turbines are Hazardous to Human Health: http://www.epaw.org/documents.php?lang=en&article=n14
[265] Low Frequency Noise from Large Turbines: http://asadl.org/jasa/resource/1/jasman/v129/i6/p3727_s1?isAuthorized=no
[266] Ground currents: An important factor in electromagnetic exposure: http://www.sncmfg.com/telecom/stray_voltage/dahlberg.html
[267] http://waubrafoundation.com.au/Y2NpZD0xMnNhaWQ9MTMxMWIkPSZmV9MTQ0OTg1MiMyOA%3D%3D
[268] www.windvigilance.com
[269] www.waubrafoundation.com.au, Video interviews: http://www.youtube.com/user/WaubraFoundation
[270] http://www.epaw.org/
[271] http://www.na-paw.org/
[272] www.windaction.org
[273] http://www.wind-watch.org/
[274] http://www.windturbinesyndrome.com/news/
[275] http://www.sdcounty.ca.gov/dmpr/pfx/Live_Well_Annual_Report/

GG-156 Cont.

GG-157

GG-158

GG-159

GG-160

GG-161

GG-157 This comment does not raise a significant environmental issue for which a response is required.

GG-158 See responses to comments K5.

GG-159 The issues raised in this comment are not inconsistent with the content of the DEIR. Please refer to DEIR Section 2.1.

GG-160 See responses to comments F1, V2, V5, GG59, GG86, GG103, and II8.

GG-161 See responses to comments F1, V2, and II8.

The County's proposed Wind Energy Ordinance and Plan Amendment DEIR should be treated without discrimination, prejudice or overriding considerations in order to support and facilitate a form of industrial energy generation that results in documented adverse emissions of noise, infrasound, vibrations, and air pollution (EMF/RFR) that have been linked to high levels of physical and emotional annoyance and stress that can and do lead to the very diseases and cancers that the County proclaims they are working to prevent through their Better Health Plan: heart disease/stroke, cancer, type 2 diabetes, and respiratory conditions, such as asthma.

GG-161 Cont.

Significant adverse impacts to wildlife [276, 277, 278, 279] **and livestock,** [280] **from industrial wind turbine project operations, has been documented** by many of the same groups noted above, in addition to national non-profit environmental organizations, news media, and others.

GG-162

These industrial projects can also represent a significant loss of property values, and quality of life for impacted non-participating property owners[281] as already documented by numerous professional real estate appraisers[282, 283, 284, 285, 286] and others, who are not associated with the wind industry or government funded studies meant to support and promote wind energy projects.

GG-163

The intermittent energy generated by wind turbines is not reliable or cost effective and requires significant backup generation[287, 288, 289] of almost equal capacity in order to balance the level of energy on the grid,[290] or forms of storage that are still experimental.

SDG&E quotes from SDUT article on the need for gas-fired backup generation to support the intermittency challenges[291]: "*People need to understand the intermittency challenge we have," said SDG&E's Niggli. "The wind comes and goes, and on the hottest days of the year, there's no wind, and you still need to provide power to your customers ... These resources are not under our control, but under the control of nature." Gas plants can take up the slack."*

GG-164

A news report on SDG&E's comments on their Power Purchase Agreement for 450 MW of gas-peaker backup generation includes the following excerpt: "*Peaker plants are small, efficient power units that can reach full generating capacity within 10 to 15 minutes to meet immediate demand on the grid. The new plants – Pio Pico Energy Center, LLC (Apex Power Group); Quail Brush Generation Project (Cogentrix Energy, LLC); and Escondido Energy Center, LLC (Wellhead) – are the selected projects that met the specifications of SDG&E's 2009 solicitation for conventional generation. SDG&E continues to sign contracts for as much renewable power as we can get to meet the state's 33-percent mandate, but we also need resources that can be brought online quickly to provide power when other sources, such as wind or solar plants, are not available,*" said James P. Avery, SDG&E's senior vice president of power supply. "*The output from most kinds of renewable generation*

[276] Feds petitioned to regulate wind industry: http://www.abcbirds.org/newsandreports/releases/111214.html
[277] http://www.examiner.com/wildlife-conservation-in-national/bird-daughterhouse-repowering-altamont-pass-with-smoke-and-mirrors
[278] http://online.wsj.com/article/SB10001424052970203501304577088593307132850.html
[279] http://www.epaw.org/multimedia.php?lang=en&article=b1
[280] http://www.epaw.org/documents.php?lang=en&article=a0
[281] The Dean's Report (noise study showing harm): http://www.windaction.org/documents/28511
[282] Michael McCann, McCann Appraisal LLC: http://www.windaction.org/documents/27736
[283] Wind Farms, residential property values, and rubber rulers: http://www.windaction.org/documents/25681
[284] Gardner Appraisal Group, Inc.: http://www.windaction.org/documents/20145
[285] Living with the Impact of Windfarms:http://ruralgrubby.files.wordpress.com/2008/12/chris-luxemburger-presentation1.pdf
[286] Professional critique of often quoted LBNL/Hoen property value study: http://www.windaction.org/documents/24637
[287] Energy Giants want billions to back up wind farms:
http://www.thisismoney.co.uk/money/article-2008055/Energy-giants-want-billions-windfarms.html
Gas-fired plants could enable more wind and solar:
http://seekingalpha.com/article/271919-re-s-gas-fired-plants-could-enable-more-wind-and-solar-power
[288] Britain Evaluates Capacity payments For Generators to Back up Wind Power: http://www.instituteforenergyresearch.org/2011/07/06/britain-evaluates-capacity-payments-for-back-up-generators-to-wind-power/
[289] Why the 250bn wind power industry could be the greatest scam of the age-and here are three " lies " to prove it:
http://www.thisismoney.co.uk/news/article-1361316/250bn-wind-power-industry-greatest-scam-age.html
[290] http://www.heritage.org/research/reports/2010/05/a-renewable-electricity-standard-what-it-will-really-cost-americans; linked report includes links to 20 base reference documents.
[291] SDGE: backup needed for wind: http://www.signonsandiego.com/news/2010/may/23/renewables-need-helping-hand-from-gas;

GG-162 See response to comment GG75.

GG-163 See responses to comments GG41 and II10.

GG-164 The County appreciates this information. Since the comment does not identify deficiencies in the DEIR, no further response is required. See also response to comment GG137.

fluctuates throughout the day, posing a challenge for our system operators who must balance supply and demand every few seconds to maintain reliability in the region," Avery added. "*In addition to helping to integrate renewables with other generation sources, the new peaking units also will be called on when demand for power is highest, such as on a hot, summer day. The Pio Pico Energy Center project consists of three natural gas-fired combustion turbine units, which, at about 100 MW each, are twice as large as a typical peaker and can power up faster and more efficiently. "This project not only can reach full power quickly like other peaking generation, it also automatically adjusts its output, much like a combined-cycle plant, to follow dips and peaks in demand, but in a much more environmentally responsible manner,*" said Dave Jenkins, vice president of Apex Power Group. The proposed project will be built on about 10 acres of land near the existing Otay Mesa Energy Center.

"Hot Air? When Government Support for Intermittent Renewable Technologies Can Increase Emissions,"[292] by Arthur Campbell, MIT Dept of Economics, includes the following abstract:

This paper analyzes the effects of an intermittent technology on long-run incentives for investment in non-renewable electricity generation technologies. I find conditions under which supporting an intermittent technology may in fact increase carbon emissions. The variability of load usually determines the long run mix of generating technologies in a competitive electricity market

When there is a significant amount of intermittent production the mix of other generating technologies is determined by the variability of net load (load net of intermittent output). Net load may be more variable than load itself if the intermittent output is not too positively correlated with load. This increase in variability results in a substitution away from baseload generating technologies towards peaking and intermediate technologies. If peaking and intermediate technologies are more carbon intensive than non-renewable "baseload" technologies, this substitution can more than offset the emission benefits derived from the output of the renewable technology.

Too many large-scale industrial wind and solar projects, especially those concentrated in disproportionately impacted areas, can lead to a destabilization of the grid that cause unbalanced load variances, shedding events, catastrophic failures[293] and related consequences.

There is esthetic, environmental, ecological, and economic value in protecting and retaining San Diego County's open and uncluttered rural ridgelines, iconic landscapes, cultural and historic resources, open space view sheds, soundscapes and quiet sense of place, rather than transforming them into unnecessary industrial energy zones.

These esthetic, environmental and economic values and overall public health and safety issues must not be ignored or overridden in the mad rush to switch to alternative energy sources--especially when there are less destructive[294] and less expensive alternatives as discussed above.

Our previous comments on this DEIR related energy and transmission project proposals and Tule Wind Plan Amendment[295] proposed in our impacted rural area are incorporated by reference:

GG-164 Cont.

GG-165

GG-166

[292] Hot Air?: http://docs.wind-watch.org/campbell-hot-air.pdf
[293] Grid realities Versus Greentech Startup Dreams: http://www.greentechmedia.com/articles/read/grid-realities-versus-renewable-startup-dreams/
[294] Clean Power Finance Channels $1M/dat financing into residential solar projects: http://www.greentechmedia.com/articles/read/Clean-Power-Finance-Channels-1-Million-Into-Solar-Every-Day/
[295] Tule Wind PPA comment letter: http://www.windaction.org/documents/32554

GG-165 See responses to comments W3, AA10, GG6, and GG66.

GG-166 See response to comment GG3.

CLOSING REMINDER AND BASIS FOR POTENTIAL FUTURE LITIGATION IN THE EVENT THE PROPOSED PROJECT/REDUCED TURBINE PROJECT DEIR GOES FORWARD AS-IS

The County's independent obligation to comply with CEQA and to equitably protect the public health, safety, and welfare and well being of all County residents in a fair and unbiased manner, along with the diverse natural and cultural and historic resources, ecosystems, and watersheds, that make San Diego County such a unique and wonderful place to live and visit, must take precedence over the desire of industrial wind energy developers and supporters--especially so when there are much better and less destructive alternatives.

Instead, please help us, as property owners, generate our own point-of-use energy to reduce the need for additional centralized large-scale energy and infrastructure projects in underserved rural high fire severity zones.

Again, we remind those in positions of responsibility for the engineering, investment and planning decisions about project and turbine siting that their primary responsibility is to ensure that developments cause no harm to adjacent residents; and, if there is possibility of any such harm, then the project should be re-engineered or cancelled. To ignore existing evidence by continuing the current practice of siting turbines close to homes is to run the dangerous risk of breaching a fundamental duty of care, thus attracting grave liability."[296]

GG-167

There is no law that says San Diego County must or shall allow, approve or accommodate large industrial scale wind turbine projects--especially in communities that are already disproportionally impacted by so many wind, solar, and expanding transmission projects. Based on what we have learned--the hard way--they are by far not the best option.

GG-168

Sincerely,

Donna Tisdale

Donna Tisdale
President, Backcountry Against Dumps
Secretary, The Protect Our Communities Foundation

CC:
Ron Roberts, Chairman San Diego County Board of SupervisorsMembers of the Board of Supervisors: Jacob, Horn, Cox, Slater-Price
Eric Gibson, Director DPLU
Dr. Wilma Wooten, MD, MPH, Public Health Officer for San Diego
Nick Machioine, San Diego County Director Health & Human Services
Matthew Rodriquez, CA Secretary for Environmental Protection (Environmental Justice)
Jared Blumenfeld, USEPA Regional Administrator (Environmental Justice)
Tomas Torres, Director USEPA San Diego Border Liaison Office
US Senator Dianne Feinstein
US Senator Barbara Boxer
CA Senator Juan Vargas
CA Assemblyman Brian Jones
Michael Brune, Executive Director Sierra Club
Barbara Boyle, Senior Representative Sierra Club Beyond Coal Campaign
Felicia Marcus, Director NRDC Western
Kieran Suckling, Executive Director CBD
Jeff Aardahl, CA representative, Defenders of Wildlife
Interested Parties

[296] Waubra Foundation's Explicit Notice of Caution

GG-167 See response to comment W3.

GG-168 This comment does not raise a significant environmental issue for which a response is required. However, it should be noted that the existing Zoning Ordinance provides for permitting of large wind turbines much the same as the proposed ordinance. However, the proposed project would update regulations for large wind turbines to be consistent with current wind turbine technology and designs. In addition, the proposed project would add provisions for regulating low frequency noise.

INTENTIONALLY LEFT BLANK