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| Docket Number: | 19-SB-100 |
| Project Title: | SB 100 Joint Agency Report: Charting a path to a 100% Clean Energy Future |
| TN #: | 230315 |
| Document Title: | Backcountry Against Dumps Comments - On Joint Agency Report Charting a Path to a 100% Clean Energy Future |
| Description: | N/A |
| Filer: | System |
| Organization: | Backcountry Against Dumps |
| Submitter Role: | Public |
| Submission Date: | 10/22/2019 3:53:37 PM |
| Docketed Date: | 10/22/2019 |

Comment Received From: Backcountry Against Dumps
Submitted On: 10/22/2019
Docket Number: 19-SB-100

19-SB100

Additional submitted attachment is included below.

BACKCOUNTRY AGAINST DUMPS

DEFENDING RURAL RESOURCES SINCE 1991
PO Box 1275, BOULEVARD, CA 91905

October 23, 2019,

California Energy Commission
1516 Ninth Street
Sacramento, CA 9581

RE: Docket # 19-SB100 Joint Agency Report Charting a Path to a 100% Clean Energy Future: 1) 2017 CEC report-recommended-research on wind turbine health effects ignored while 90 new massive 4.2 MW turbines are proposed too close to homes; 2) wildfire-sparking wind turbines are negligently allowed to operate during red flag power shut off events when homeowners and businesses are left in the dark.

Our grassroots public interest non-profit group, Backcountry Against the Dump, Inc (# C1695284-DBA Backcountry Against Dumps) was incorporated in 1991 to fend off a 600 acre landfill and a hazardous waste incinerator proposed next to homes and wells in our groundwater dependent area in South Eastern San Diego County. Our mission is to defend rural communities and resources from unsafe facilities and projects and we have been doing just that for almost 3 decades.

Wind turbine health effects:

In the last dozen or so years, we have worked diligently to protect people and resources from industrial-scale wind, solar, and related infrastructure projects proposed and approved far too close to rural homes and other sensitive receptors and resources. We have conducted research and outreach and supported professional field studies documenting harmful levels of pollution generated by the existing 241 industrial wind turbines (2 MW-3.3 MW turbines) operating in an approximately 16 mile radius around both tribal and private lands/ homes in our tiny rural border communities of Boulevard, Jacumba Hot Springs, and Ocotillo, and immediately south of the US/Mexico border.

Studies include electrical and acoustic pollution (audible and infrasound vibrations) that represents both public and private nuisance and has harmed the health and well being of impacted residents, along with the use and enjoyment of their properties. There are numerous suspicious cancer cases at tribal homes near the 25-2MW Kumeyaay Wind turbines that started operation in late 2005, including brain, stomach, kidney, benign tumor in toddler and many other health issues that commenced or were exacerbated by the wind turbines. At least one tribal home has been abandoned. Other tribal and private residents want to move away from the turbines but cannot afford to do so. The photos below provide a glimpse of the proximity of local wind turbines and homes (Kumeyaay Wind, Tule Wind, Ocotillo Wind).





Currently, 90 new 4.2 MW wind turbines (586 ft tall) are proposed in the Boulevard area on tribal and private land and are going through the permitting process. Alarming, the 90 proposed 4.2 MW wind turbines will stand 586 ft tall and may be allowed as close to homes and property lines as 1.1 times the turbine height (644 ft). These turbines are twice the size and are proposed 3-4 times closer to sensitive receptors than existing turbines that have already been documented as impacting homes located between 2,000 or so feet and up to 16 miles away from turbines. These new turbines are bigger than any turbines studied to date, as far as we know.

Our professional research has documented high levels of stray voltage/dirty electricity; low-frequency noise; infrasound; and amplitude modulation where complaints include *but are not limited to* sleep deprivation, anxiety, vertigo, tinnitus, heart attacks, headaches, brain fog, skin rashes, gastro-intestinal, sinus and respiratory, depleted adrenal glands, cancer of the brain, stomach and kidneys, abdominal tumor in a toddler, electromagnetic interference, and cell phone disruption. ***We need help and stand willing to engage with the CEC and other valid non-industry biased and funded researchers and to share what we have collected and continue to collect.***

On August 12, 2019, we submitted a Public Records Act Request to the CEC seeking any information related to actions taken in response to the research needs identified in the November 2017 | CEC-500-2017-035 Energy Research and Development Division; Public Health Research Roadmap on Emerging Electricity Systems¹ that finally admitted that more research is needed into wind turbine health effects:

- **4.9 Research Needs:**
 1. Conduct life cycle hazard assessment of turbine technologies, including rare-earth magnets
 2. Improve infrasound exposure and impact assessment
 - a. Exposure assessment at various turbine-receptor distances
 - b. Epidemiological research on sleep disruption and annoyance from larger turbine design, controlling when possible for known confounders.

The August 22nd response to our PRA request from Ralph Lee, Senior Attorney, CEC's Office of Chief Counsel included the following response, along with suggestions to submit comments:

¹ <https://ww2.energy.ca.gov/2017publications/CEC-500-2017-035/CEC-500-2017-035.pdf>

- Note that the California Energy Commission research division develops its research investment plan based on its organizational objectives and inputs spanning a range of sources (e.g., subject matter experts, members of the public), formats (e.g., consultant reports, stakeholder workshops), and topics (including health and safety). All research recommendations adopted in the EPIC investment plan are publicly vetted. Based on its investment plans, the research division makes independent decisions to fund specific research activities.

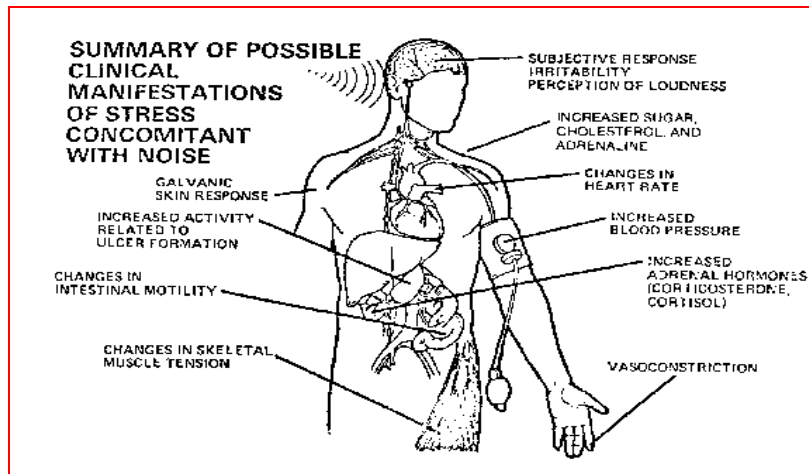
To date, without conducting honest and ethical updated on-site field research at impacted homes, similar to ND Kelly's valid NREL research presented in 1987 (A Proposed Metric for Assessing the Potential of Community Annoyance from Wind Turbine Low-Frequency Noise Emissions ²), the wind industry (which collects billions in tax-payer funds and tax credits) and their supporters, which includes California state agencies and other powerful entities, continue to deny the real world impacts of physical, emotional, and economic harm that our disproportionately impacted low-income communities are being subjected to.

Despite self-serving industry denials, today's massive upwind turbines can and do generate significant levels of harmful infrasound, low-frequency noise and amplitude modulation. It is hard to defend ourselves from publicly funded wind-industry-biased research and political pressure that denies valid research funding and suppresses the truth as we know it. We are not alone, turbine-impacted communities around the globe are being subjected to the same turbine-generated assaults from acoustical and electrical pollution that trespasses onto their properties invading their homes and their bodies, harming their families, their pets and their livestock.

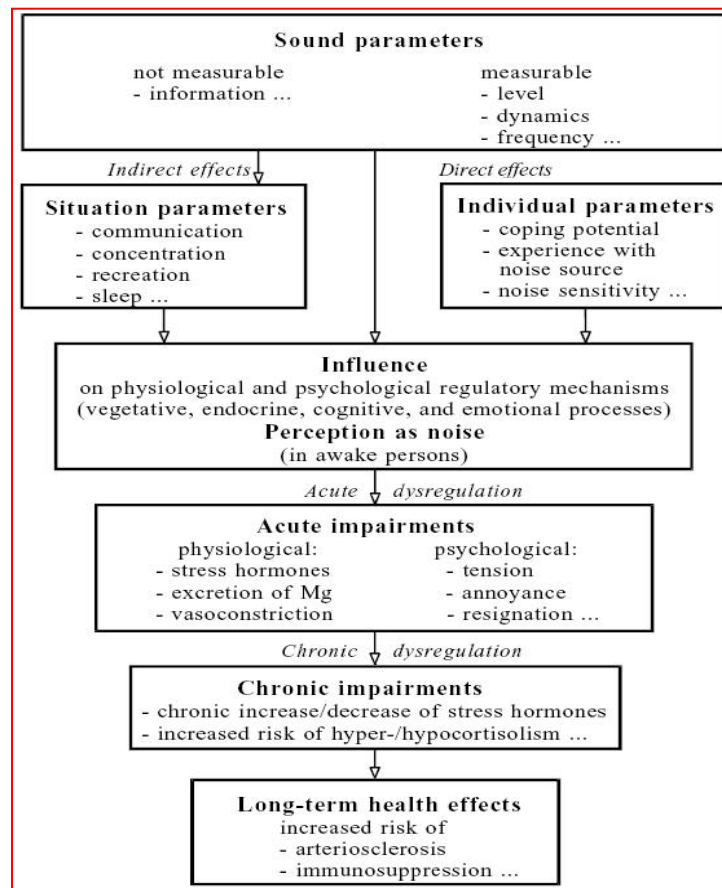
The significant adverse health effects of noise in general have been well known and broadly acknowledged for decades and cannot honestly be denied for politically favored projects.

- **Sleep Disorders and Sleep Deprivation An Unmet Public Health Problem:**
Editors: Harvey R Colten and Bruce M [National Academies Press \(US\)](https://www.nationalacademies.org/pubs/2006); 2006. ISBN-10: 0-309-10111-5; Institute of Medicine (US) Committee on Sleep Medicine and Research. Washington (DC) <https://www.ncbi.nlm.nih.gov/books/NBK19960/> (excerpts)
 - ***“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.***

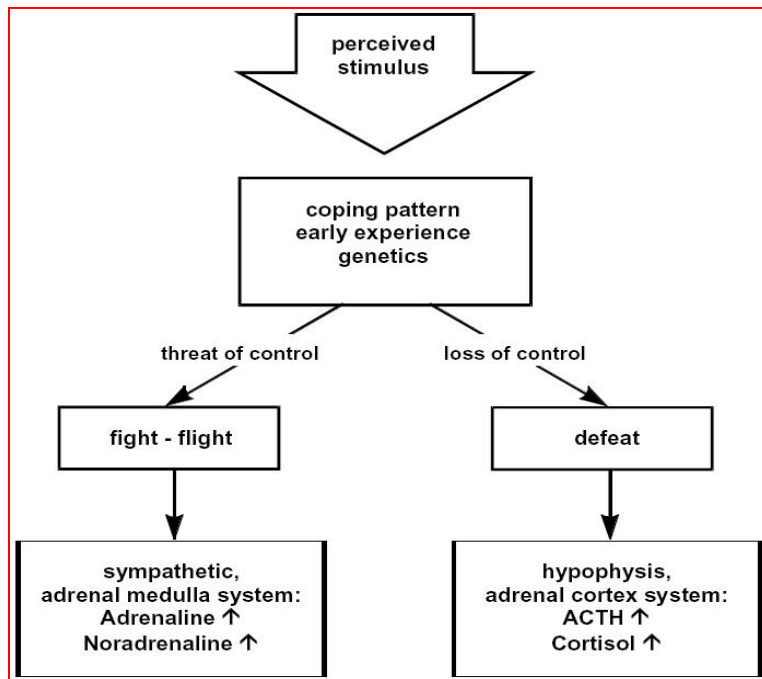
² <https://www.nrel.gov/docs/legosti/old/3261.pdf>



- The psychophysiological stress model (Henry and Stephens, 1977 - Figure 1.)**(Excerpt: Acute and chronic endocrine effects of noise : Review of the research conducted at the Institute for water, soil and air hygiene Ising H, Braun C Year : 2000 | Volume: 2 | Issue Number: 7 | Page: 7-24: *"It is generally accepted that noise has the potential to act as a non specific stressor. A stimulus is perceived by our ears, eyes, nose or other senses and transmitted to the corresponding parts of the brain, where it is analyzed."*
<http://www.noiseandhealth.org/article.asp?issn=1463-1741;year=2000;volume=2;issue=7;spage=7;epage=24>

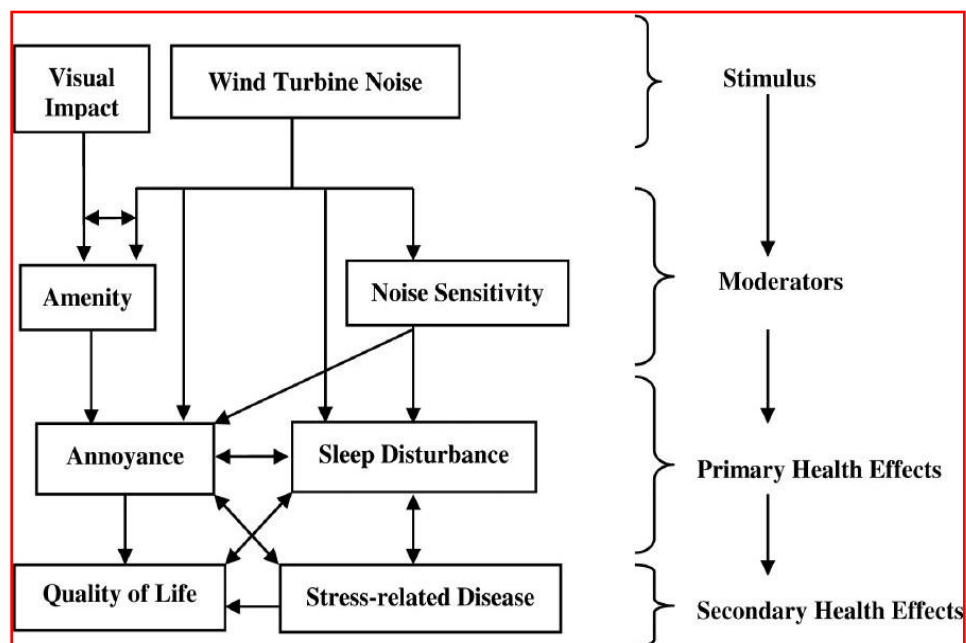


- Model of direct and indirect noise effects**, Ising H, Braun C. **Acute and chronic endocrine effects of noise** : Figure 9: Review of the research conducted at the Institute for water, soil and air hygiene. **Noise Health 2000**; 2:7-24. Available from: <http://www.noiseandhealth.org/text.asp?2000/2/7/7/31745>.



- A schematic representation of the relationship between wind turbines and health in a semi-rural setting.** From **Noise & Health A Bimonthly Inter-Disciplinary International Journal: Figure 1: (below)** The multiplicity of relationships emerges due to the variability in the response of individuals to noise:

http://www.noiseandhealth.org/viewimage.asp?img=NoiseHealth_2011_13_54_333_85502_f4.jpg



The tide is finally starting to turn with class-action and other lawsuits filed by hundreds of residents in the US, Australia, Britain, Scotland and elsewhere being settled before going to court. Court is the last place the wind industry wants to be. The truth will eventually come out and our state agencies and responsible parties need to get on the right side of this issue before more communities are unnecessarily harmed by negligent and industry-biased misrepresentations regarding knowingly fraudulent claims and misrepresentations about wind turbine safety and harmful effects on people and the environment.

Lawsuits over turbine impacts:

- **Plaintiffs who would receive in excess of \$50 million from hosting turbines sue over turbine impacts** FERNANDO DEL VALLE Valley Morning Star |Wednesday, January 29, 2014³**The Lawsuit states:** (excerpts emphasis added):
 - **Companies built “hundreds” of wind turbines that stand 467-feet high and weigh 7 tons on the properties of plaintiffs who received or will receive money and tax benefits that will exceed \$50 million.**
 - Companies “carelessly and negligently failed to adequately disclose the true nature and effects that the wind turbines would have on the community, including the plaintiffs’ homes.”
 - **Companies told residents that the wind turbines “would not be noisy, would not adversely impact neighboring houses and there would not be any potential health risks,”**
 - The wind turbines create noise, reduce property values, interfere with television, telephone, satellite and Internet reception and destroy “scenic countryside,” the lawsuit states.
 - The wind turbines create “acoustic pressure pulsations that affect peoples’ health.” Some residents were “even forced to abandon their homes.
- *It is our understanding that the litigation noted above settled out of court.*
- **Hardscrabble Wind litigation filed by 68 neighbors**⁴ **in New York alleged similar impacts and also settled out of court.**
- **Last month, about 100 neighbors in New York filed a lawsuit in state Supreme Court in Mayville against the developers of the Arkwright Wind Power Project identifying similar adverse impacts**⁵.
 - The residents, represented by Melody D. Westfall of Syracuse, are asking for unspecified damages related to loss of property values, compensatory damages for destruction of homes and lifestyle, loss of use and enjoyment of their properties, damages for relocation costs and time spent relocating, mental anguish, destruction of scenic countryside, physical pain and suffering, difficulty sleeping, nuisance, trespass, interference with electronics in their homes such as satellites, telephones and televisions, loss of business profits, special damages for stress, anxiety, worry and

³ <https://www.wind-watch.org/news/2014/01/29/court-waits-on-wind-farms-response-to-suit/>

⁴ <https://waubrafoundation.org.au/wp-content/uploads/2013/03/lberdrola-Hardscrabble-Wind-summons-filed-10-22-12.pdf>

⁵ <https://www.post-journal.com/news/page-one/2019/09/residents-file-lawsuit-against-wind-project-developers/>

inconvenience, and the effects lights and noise from the turbines have on their properties.

- **March 2019 – Nebraska: A Blue Hill resident filed a class-action lawsuit against NextEra, alleging that its wind turbines are a nuisance to nearby homeowners⁶.**
 - According to court documents, Kohmetscher lives on an 11-acre plot that is surrounded on three sides by wind turbines from NextEra’s Cottonwood Wind Energy Center, a 40-turbine, 89-megawatt farm that began operation in the fall of 2017. Kohmetscher says in the lawsuit that the closest turbine is 1,300 feet from his property line.
 - According to the suit, since the wind farm started operating, Kohmetscher has experienced stress, anxiety, an inability to sleep, headaches, nausea and other physical symptoms, which he says are caused by shadow flicker, noise and other negative effects of the wind turbines.
 - Kohmetscher also alleges in the complaint that the wind turbines have interfered with the use and enjoyment of his property and also that the proximity of the turbines has decreased the value of his property and he “will be unable to lease or sell his property for its fair market value prior to installation of the turbines.

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Fire-sparking wind turbines are inexplicably and negligently allowed to operate during dangerous red flag high wind power shut-off events when neighborhoods are cut off. San Diego Gas & Electric says it is not their call.

Wind turbines and related infrastructure / construction have been documented as the ignition source for substantial wildfires covering up to 30 square miles, destroying properties, and killing hundreds of domestic livestock:

Here are a few examples:

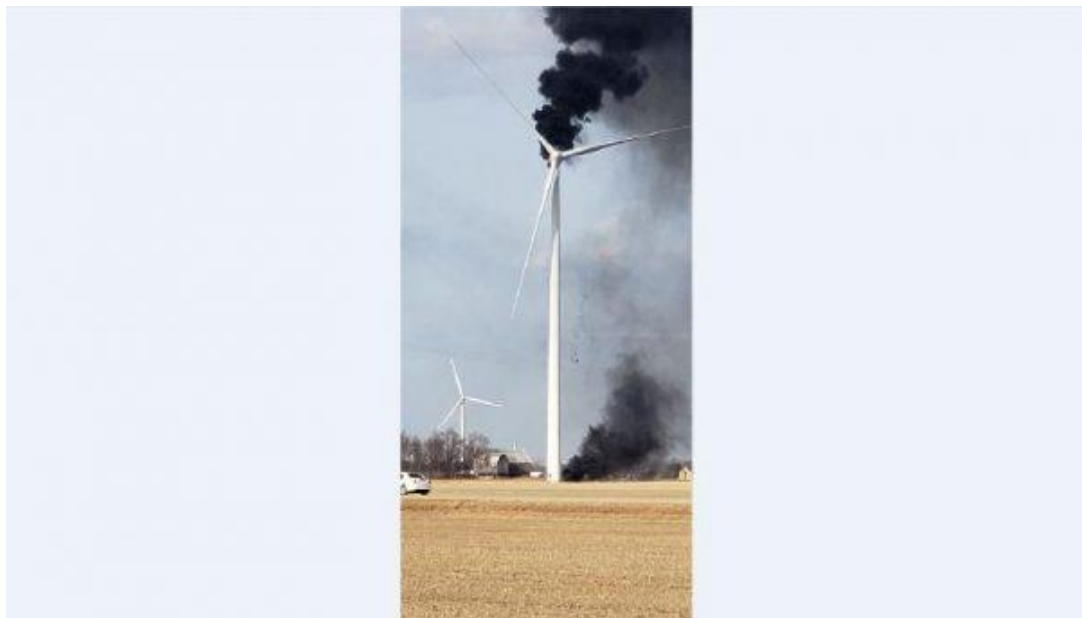
- **8/26 2019: (Texas) Taylor Co. wind turbine fire sparks bigger blaze,** By Joey Hollingsworth | KTAB/KRBC | Posted: Aug 26, 2019 ~~~Several fire crews are working to contain and extinguish a large fire in Taylor County. According to a Facebook post made by the View Volunteer Fire Department, (VVFD), Mulberry Canyon VFD, Eccca VFD, Blackwell VFD, Merkel VFD, Nolan VFD, and the Texas Forest Service are all on hand fighting the fire that was sparked from a wind turbine fire earlier Monday. The Texas Forest Service says the fire is estimated at 100 acres and is currently 10% contained, according to a social media post. Many of the volunteers went straight to the fire from work, and are in need of food and water donations, which can be made at Elm Valley Volunteer Fire Department near Highway 277 and FM 89. They can be reached at (325) 572-3980. <https://www.bigcountryhomepage.com/news/taylor-co-wind-turbine-fire-sparks-bigger-blaze/>

⁶ <https://www.apnews.com/a95e12d1a0874adaad472686990b286a>



Flames from the Rhodes Ranch 3 Fire burn near wind turbines on Monday. (Photo: Courtesy Texas A&M Forest Service)

- **7/21/19: KEPRTV: Witnesses say broken wind turbine caused several hundred acre fire** by Megan Magensky: (excerpt): KLINKITAT COUNTY, Wash. — KLINKITAT COUNTY, Wash. — The fire is mostly burning in the Pine Creek Drainage area south of Bickleton, WA. As of Sunday evening, the fire has burned 242 acres. 39 structures are threatened by the fire but no structures have burned. The Pine Creek Drainage area is under a level three evacuation: <https://keprtv.com/news/local/witnesses-say-broken-wind-turbine-caused-several-hundred-acre-fire>
- **4/1/19: Wind turbine catches fire in Huron County** By ABC12 News Team | WJRT | www.abc12.com ~A wind turbine in Huron County caught fire and dropped flaming debris to the ground Monday afternoon. The fire was reported around 5:30 p.m. on Elkton Road near Berne Road in Oliver Township. The wind turbine involved is located about a half mile off the road, so a witness said fire crews are having trouble accessing it: <https://www.wind-watch.org/news/2019/04/02/wind-turbine-catches-fire-in-huron-county/>



- **8/13/18: East Oregonian reported: Wind turbine sparks grass fire near Arlington that burned about 2,000 acres:** https://www.eastoregonian.com/news/local/wind-turbine-sparks-grass-fire/article_c8471827-bf9b-5a07-9f40-d4c2f540b8fd.html
- **7/24/18: Massive Ontario (Canada) Parry Sound 33 fire sparked by wind farm construction, workers allege, during extreme fire ban. Fire spread to almost 30 square miles, forcing many to evacuate (photo below):** <https://www.cbc.ca/news/canada/ontario-forest-fire-wind-farm-construction-1.4758864>; <https://www.wind-watch.org/news/2018/12/05/this-could-have-been-avoided-wind-farm-work-sparked-blazes-before-parry-sound-33-wildfire/>



The Parry Sound 33 forest fire began at a massive wind farm construction site on the northeastern shore of Georgian Bay on July 18. The blaze burned out of control until late August. (Warren Wright)

- **9/10/17: Fox 13 Salt Lake City: Cowboy Fire sparked by wind turbine burning on 1,592 acres near Evanston, WY:** <https://fox13now.com/2017/09/10/cowboy-fire-sparked-by-wind-turbine-burning-on-1592-acres-near-evanston/>
- **1/17/17: The Currandooley Bushfire ripped across the southern Tablelands of New South Wales (NSW) Australia.** The blaze started at Infigen’s Capital Wind Farm off Taylors Creek Road, near Tarago on the morning of January 17. **It tore through 3384ha (8,400 acres)**, fanned by strong winds and fuelled by high heat and dry conditions. It destroyed a house at Mount Fairy, 80ha of crops, eight sheds, 10.5km of windbreaks, cattle yards, stock water tanks and over 150km of fencing, Local Land Service figures revealed. A total 230 animals died and 110 were destroyed on welfare grounds. A NSW Rural Fire Service investigation found that a bird struck a high-voltage power line transferring electricity from Infigen’s Woodlawn wind farm to a substation at the Capital wind farm. The bird caught fire, dropped to the ground, sparking the blaze⁷. In January 2017, Infigen reported that they had reached a settlement in the related class action lawsuit, filed by 33 impacted property owners, was settled⁸.

⁷ <https://www.goulburnpost.com.au/story/4637807/firm-launches-class-action-over-currandooley-fire/>

⁸ <https://www.infigenenergy.com/about-us/news/currandooley-bushfire/>



Mount Fairy grazier Fred Kuhn was devastated by the loss of some of his stock in the Currandooly Bushfire. Photo: Karleen Minney

- **12/13/13: Kumeyaay Wind turbine fire in Boulevard, CA, sparked a small brush fire.** Luckily, the fire occurred just one day after a Santa Ana wind event. See 3 photos below.



- **8/20/12: Report on wind turbine fire sparking grass fire in Tehachapi area, included the photo below(taken by Donna Moran) :** <https://www.eastcountymagazine.org/node/10602>



- **6/17/12: Cal Fire Incident Report #12-CARRU 059775: 367 acre wildland fire sparked by 'windmills on fire' off I-10 in San Bernardino:**
<https://www.eastcountymagazine.org/sites/eastcountymagazine.org/files/2012/July/ViewFire%20report.pdf>

2014 report: Overview of Problems and Solutions in Fire Protection Engineering of Wind

Turbines⁹: FIRE SAFETY SCIENCE-PROCEEDINGS OF THE ELEVENTH INTERNATIONAL SYMPOSIUM pp. 983-995 COPYRIGHT © 2014 INTERNATIONAL ASSOCIATION FOR FIRE SAFETY SCIENCE/ DOI: 10.3801/IAFSS.FSS.11-983

- (excerpt pages 984-5/ emphasis added) “ ***The fire problem in wind turbines arises as a result of large amounts of highly flammable materials (hydraulic oil and lubricants, composite materials, insulation, and polymers) contained within the nacelle of the wind turbine and packed in close proximity to potential ignition sources such as overheated mechanical components (hot surfaces) and electrical connections that could fail*** [8-12]. Once a fire is ignited in a wind turbine, the situation rapidly escalates because the high wind favoured by turbine locations enhances the supply of oxygen and, hence, the fire growth. In over 90% of wind turbine fires reported, a total loss of the wind turbine, or at least, a severe structural failure of the major components (blades, nacelle, mechanical or electrical components) has been reported [8]. Moreover, even in the case of rapid detection, the fire brigade cannot intervene because of the turbine height [9, 10, 12], and for offshore wind turbines it is impractical to send response teams to fight the fire [9]. ***Under high wind conditions, burning debris from the turbine may fall on nearby vegetation and start forest fires or cause serious damage to property*** (see Fig. 4) [10].”
- (Excerpt page 987): “Ardrossan, Ayrshire, UK, 2011 ***On 8th December 2011, a wind turbine caught fire during a heavy storm in North Ayrshire despite being non-operational. The wind turbine was completely burnt out and burning debris were scattered across a long distances due to the strong wind*** (see Fig. 5).

⁹ http://www.iafss.org/publications/fss/11/983/view/fss_11-983.pdf



- “Fig. 5. Wind turbine fire at Ardrossan wind farm [17]. The cause of the fire was said to have been a lightning strike to the turbine. The turbine was completely destroyed. **Secondary ignition of nearby vegetation and property was avoided due to timely fire service intervention.** The wind farm lost about 1,210 MWh of energy in the weeks after the fire due to downtime. This fire got a lot of attention and received some strong criticism especially from those who were already against wind energy, one of which was Sir Bernard Ingham, secretary of the Supporters of Nuclear Energy group, who said: “They are no good when the wind doesn’t blow and they are no good when the wind does blow” [18].”
- “This article has highlighted the unique nature of the fire problem faced by the wind energy industry, as well as the paucity of available information about such fires in the public or scientific domains.** There are numerous examples of accidents reported in the popular press, all of which highlight the significant impact and ensuing downtime due to fires. These fires result in financial loss, power loss (which is especially Fire Conversion of energy Thermal energy Radia5on UV Visible Flame detectors IR Convec5on Laminar flow Turbulent flow Heat detectors Conversion of maAer Residual Suspension Gaseous Gas combus5on detectors Aerosol Invisible Visible Smoke detectors problematic in remote locations where the wind turbines are a major source for electricity), as well as secondary damage, for example through road closures or ignition of wild fires in rural areas. **There is however very little scientific information available publically from which to evaluate the problem critically, since much of this information is proprietary. What is known and apparent, however, is that because of the nature of wind turbines, fire-fighting is difficult.** The nacelles are significantly elevated above ground level, beyond the reach of most fire-fighting appliances. Turbines are often located in remote rural areas, increasing response time. Yet the environment inside of a wind turbine nacelle may lead to increased likelihood of ignition because of the choice or design of the components, and to increased difficulty in detection or suppression since the favoured environment requires high flow of air around the nacelle and through it in the case of some designs. **Therefore, where fires do occur there is - in the majority of cases - a 100% loss of the turbine structure and the only recourse of fire-fighters is often to attempt to limit the spread of the fire to other areas.”**

Conclusion: Our predominantly low-income and disproportionately impacted rural communities don’t deserve the continued denial and neglect related to the real harm inflicted on unwilling neighbors of industrial wind turbines that are being promoted and negligently approved in our at-risk wildland neighborhoods, and inexplicably allowed to operate during red flag high wind power shut off events.

Regards, Donna Tisdale, President; 619-766-4170; tisdale.donna@gmail.com