

Unintended Consequences ?

EPA's

Good Neighbor Environmental Board,

June 16, 2011 ~ San Diego

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Any errors or omissions are unintentional

Community Activist

Life-long Border Resident

- **Born and raised in Brawley,** an Imperial Valley farming community
- **34 year resident of Boulevard, CA,** at Morning Star Ranch 2 miles from US/ Mexico border in Eastern San Diego County / abutting Campo tribal lands.
- **Volunteer Community activist for over two decades**
- **Chair, Boulevard Community Planning Group,** (1990-present ~ elected advisory land use group for San Diego County)
- **Co-Founder and President, Backcountry Against Dumps,** (1989 –present~ non-profit)
- **Secretary, The Protect Our Communities Foundation,** (2009 to present ~ non-profit)

Work with diverse interests, groups, agencies, decision makers, and residents ,including tribal members, to protect and defend rural lands and resources from inappropriate and unsustainable development.

Environmental Justice Issues:
Rural Low-Income border communities
in Eastern San Diego and Western Imperial Counties

disproportionately impacted
by large-scale renewable energy projects

- **Boulevard, CA: population 1,496**

Per capita income: \$17, 213

18 % Hispanic ~ 10.7 % Native American ~ 29% Disabled ~ 23 % Veterans

- **Jacumba, CA: population 695**

Per capita income: \$13, 704

35% Hispanic ~ 28.9% Disabled ~ 22.9 % Veterans

- **Ocotillo, CA: population 454**

Per capita Income: \$17,092

23.6 % Hispanic ~ 41% disabled ~ 38% Veterans

Per 2000 Census

Rural border communities are on an unwanted Fast Track for transformation into industrial energy zones to serve distant cities

- **No industrial zoning—No problem.**
- Federal agencies are unlawfully down-zoning previously protected public lands that *were* zoned to protect critical resources
- **No water—No problem.**
- State and federal agencies just sign overriding considerations that impact sole source aquifers and other vanishing desert water.
- **Sensitive biological / cultural resources / endangered species in the way—No Problem.**
- Understaffed tribal offices, often volunteers, are bombarded with project applications and calls for cultural consultations. Sadly, consultation often comes after the project has been approved in violation of NHPA.

Border Area Industrial Renewable Energy Projects:

Partial list with Direct and Indirect costs

**Wind and solar projects each require new gen-tie lines and substations
most impact private rural land**

- **\$2 billion:** SDG&E's Sunrise Powerlink (unresolved state & federal litigation)
- **\$2 billion:** Tessera's Solar Two /Stirling Dish (Ocotillo /Plaster City) (injunction/unresolved litigation) (K-Road new owner)
- **\$500 million:** Tenaska's Imperial Solar Energy Center South (PV/CPV) (DOE loans on hold)
- **\$500 million:** Tenaska's Imperial Solar Energy Center West (CPV) (DOE loans on hold)
- **\$500 million:** Soitec CPV manufacturing plant in San Diego
- **\$285 million:** SDG&E's proposed ECO Substation (Jacumba/ Boulevard) (CPUC Permit to Construct –Protested)
- **\$400 million:** Iberdrola's Tule Wind (Boulevard) (FEIR/EIS /MUP pending) (Golden Eagle /cultural resources)
- **\$500 million:** Invenergy's Shu'luuk Wind on Campo tribal land (Boulevard)
- **\$300 million plus:** Enel Green Power's 158 MW Jewel Valley Wind and 10 MW solar project (Boulevard)
- **?? ?\$ million:** Sempra's Energia Sierra Juarez Cross-border Gen-tie at ECO Substation (Jacumba)
- **\$630 million:** Pattern Energy's Ocotillo Express Wind (Ocotillo)
- **???? Million:** Pattern Energy's Kitchen Creek Wind (Forest –west of Boulevard)
- **\$3.5 billion:** SDG&E's proposed smart grid to accommodate renewable energy and backup generation.
- **????million:** SDG&E's Power Purchase Agreement for Phase I of Sempra's 1,250 MW Energia Sierra Juarez
- **\$1.8 billion:** SDG&E's Power Purchase Agreements for 450 MW of new gas-fired peaker-power to backup intermittent wind and solar energy (San Diego)

Some unavailable project costs are estimated / Wind costs average \$2 million per MW

Large-scale projects include expansion plans / importation of energy

- **SDGE'S \$300 million ECO Substation at Jacumba** is designed to accept up to five cross-border 500 kV lines to import energy from Sempra's 1,250 MW Energia Sierra Juarez Wind project immediately south of the Jacumba Wilderness in Baja.
- **The IBEW has opposed the importing of energy and exporting of jobs**
- **The \$2-3 billion 500 kV Sunrise Powerlink** will further expand north, to L.A. and beyond, through sensitive areas of the Cleveland National Forest.
- **SDGE's Imperial Valley Substation** is planned for an additional dozen or so new lines within the Yuha Desert ACEC and FTHL Management Area.
- **Many if not all of these expansions, and impacts,** will run through the same impacted rural communities—spurring even more industrial growth

Renewable energy land rush ~ *not so green* from rural front line impact zones

- The scraping of tens of thousands of acres of sensitive public land and intact habitat increases erosion, dust storms, and respiratory diseases
- Much of the impacted area has already been scientifically identified as globally significant and rare Mediterranean mosaic with abundant wildlife and critical wildlife corridors.
- Groundwater will be siphoned off from stressed desert aquifers that feed our wells. Our communities have no alternate affordable water source.
- Billions of dollars are being redistributed from tax and utility rates payers to for profit corporations, many are foreign owned.
- We have Spanish, Italian, German, Irish, US, French, German, and multi-national corporations hard at work lobbying decision makers and the media, behind closed doors, to marginalize and discredit our on-the-ground knowledge and efforts at self defense.
- Critics have even been falsely accused of violence and threats of violence in attempts to discredit and marginalize them. Developers are undermining and gutting our land use and community plans and protections, and the value of our investments in our homes.

Imperial Valley

No compliance – No problem

- Highest rates of unemployment and asthma.
- No Farmland Conversion Policy for renewable energy.
- Clearing tens of thousands of acres of desert land & removing farmland from production and irrigation increases levels of PM10 and exposure to Valley Fever.
- 948 acre-Imperial Solar Energy Center approved:30-40 year conversion of prime farmland, only 4 full time jobs, only \$30-80k annual benefit, concerns from staff, and objections from Farm Bureau and Ag Commissioner.
- Export of desert groundwater approved from controversial well located within EPA designated Ocotillo/Coyote Wells Sole Source Aquifer (in documented overdraft) for the 6500 acre SES Solar Two Stirling Dish project and hydrogen production plant.
- Export of water from same well for construction of Sunrise Powerlink through BLM lands / despite SDG&E promise ***not to use groundwater***.
- CEC staff commented on County's failure to comply with their own zoning, land use plans, and ordinances in Solar Two EIR/EIS *process—before the Commission approved overriding considerations*.
- Cultural consultation was started after project approval just like Sunrise Powerlink

Solar Two site in Imperial Valley

Lush desert wash/ forage for bighorn sheep...



Area proposed from transformation into industrial solar factory



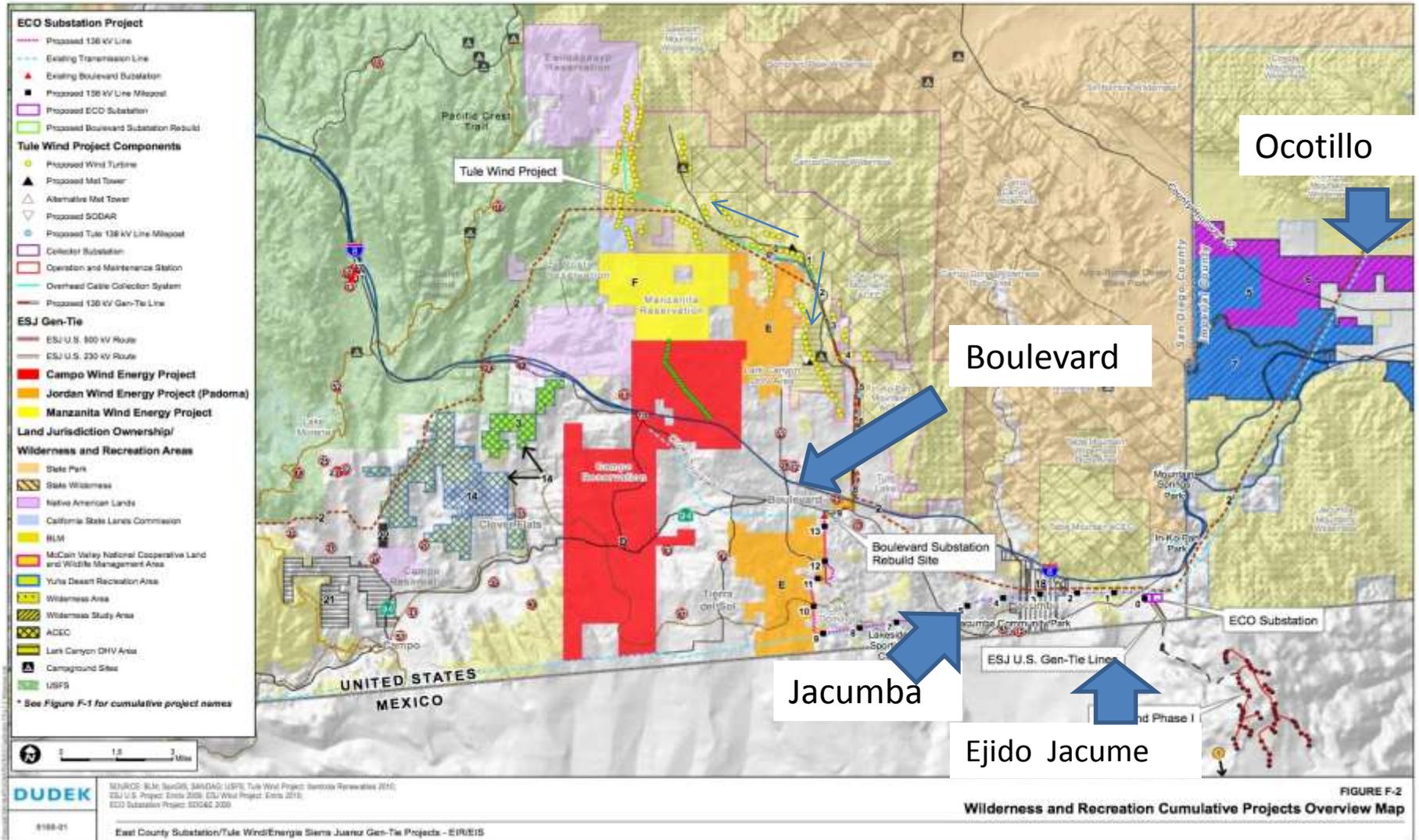
Wildlife impacts

- Golden Eagles ~ considered sacred by some Kumeyaay clans as part of their creation stories
- Flat Tailed Horned Lizards
- Reintroduced Condors
- Wide variety of raptors, bats, song birds
- Bighorn Sheep
- Flat Tailed Horned Lizards
- Mountain Lions
- Bob cats and much more...
- Where are the big predators expected to go?

Nothing is sacred—not even sacred sites!

- Native Americans that I work with are shocked, alarmed, and outright angry at the scale and scope of impacts to cultural resources from many massive projects.
- Critical resources, heritage, and legacies are being lost, damaged, destroyed, or removed, on a massive scale. These resources qualify and should be designated as Properties of Religious and Cultural Importance.
- Village sites, ceremonial sites, burial and cremation sites, traditional cultural properties and landscapes, are all at risk.
- Culturally significant landscapes and sense of place are being forever altered for renewable energy projects that *should, instead, be* built on new and existing structures and already disturbed lands close to the point of use.
- BLM's unjustified and unlawful down-zoning Plan Amendments and Fast-tracking of these destructive projects is especially galling and inexcusable.

Cumulative projects map: 25 existing Kumeyaay turbines about 400 turbines planned for Boulevard, over 150 for Ocotillo, and over 60 miles of turbines in Baja—for export to California



Concentrated turbine projects cannot meet safe setbacks

- Most experienced health, noise, sleep, and other medical and scientific experts, investigating wind turbine impacts, recommend a bare minimum 1.25 mile setback ***with 2 miles or more in hilly open terrain like ours—to protect public health and safety.***
- The cumulative projects map shows that our rural communities and homes will have turbines on multiple, if not all, sides at much less than the setbacks recommended for public health and safety.
- Impacted residents, deeply resent it when developers repeatedly say that turbines are as quiet as your refrigerator, and they don't cause health problems, or impact wildlife, or property values.

Industrial Wind /Solar community issues/concerns

- **Cumulative impacts from multiple projects** in condensed targeted areas surrounding rural low-income communities.
- **Industrial conversion of public lands** adversely impacts recreation areas and tourism dollars for economically depressed rural communities
- **Adverse impacts to fragile desert aquifers /** designated sole source aquifers that rural communities rely on.
- **30-40 year conversion of prime farm land** and farmland into industrial solar zones IN VIOLATION of the Farmland Protection Act— is called temporary and insignificant. It is neither.
- **High levels of Noise and/or Electrical Pollution** generated by wind turbines, solar inverters, transformers, substations, transmission lines, communications, smart grid.
- **Intermittent energy generates dirty electricity.** IEEE has proposed two new standards for injecting harmonics into grid and how EMF is measured—environmental safety noted.
- **Exposure to EMF/RF** has been linked to a variety of illnesses and cancer. Read Dirty Electricity by epidemiologist Samuel Milham, MD, MPH.
- **Property value impacts are real, documented, and denied** by industry, their hired guns, and those suffering from the “hear no evil, see no evil, speak no evil” syndrome.

In 2005, no one opposed the
50 MW Kumeyaay Wind project built on tribal land
until the turbines started turning and the reality of living with turbines hit home ...

Kumeyaay Wind's Unexplained catastrophic failure ~ December 2009:
witnesses saw blue light ball arc out to all 25 turbines ~ off-line about 4 months ~
All 75 blades, rotors, electronics were replaced
Calls for an investigation have been ignored by Secretary Salazar .
NEPA scoping is being conducted, now, for another 125 turbines for Shu'luuk Wind

photo from San Diego Union Tribune



Industrial wind turbines *are not* good neighbors.

Industry reps say 700 - 1,000 feet setback is OK.
It is not OK for those families subjected to what they describe as
sheer torture.



Kumeyaay Wind turbines are spaced too close, generating more turbulence & impacts complaints include:

Sleep disruption, heart trouble, ear & sinus pain, blood pressure, blood sugar, vertigo, anxiety, migraines, confusion, cognitive, feelings of unease, and at least 2 suspicious cancer cases in tribal homes near the wind project substation.



**Kumeyaay Wind turbines,
installed on leased Campo tribal lands, loom over the
home of impacted Manzanita tribal members.**

**The 25 turbines are owned by an Australian company and operated by a company
from Texas**



Turbine wake turbulence
increases noise and infrasound pollution.
More turbines result in more turbulence...



A growing body of evidence is being gathered from wind energy victims around the globe—despite a blatant lack of support or help from their own government agencies that are busy supporting the project developers

- Like MTBE that was meant to improve air quality but poisoned groundwater instead, adverse impacts from *not-so-green* industrial wind turbines were either unintended, unrecognized, under estimated, or just plain swept *under* the rug by the industry and their cheerleaders.
- Communities have been left to fend for themselves, while local, state and federal governments lavish generous cash grants, tax breaks and credits, property and sales tax reductions or exemptions, renewable energy credits, and more...
- These hulking and pulsing 40-50 story tall generators emit audible and low frequency noise, infrasound, dirty electricity, and flashing light pollution that negatively impacts people, pets, livestock, and wildlife in unnecessary and unacceptable ways.
- Some families have had to abandon their homes to regain their health. Some were forced to sign gag-orders as a condition of having the offending company buy them out at reduced prices. The loss or sale of these homes rarely make it into industry property value studies.
- The stories from impacted turbine neighbors are the same, regardless of what part of the world they live in. It is a matter of physics.
- Massive solar projects can include tens of thousands of tracking buzzing modules that can stand 20-40 feet tall. Inverters, substations, remote control systems, and other equipment also generate high levels of EMF/RF

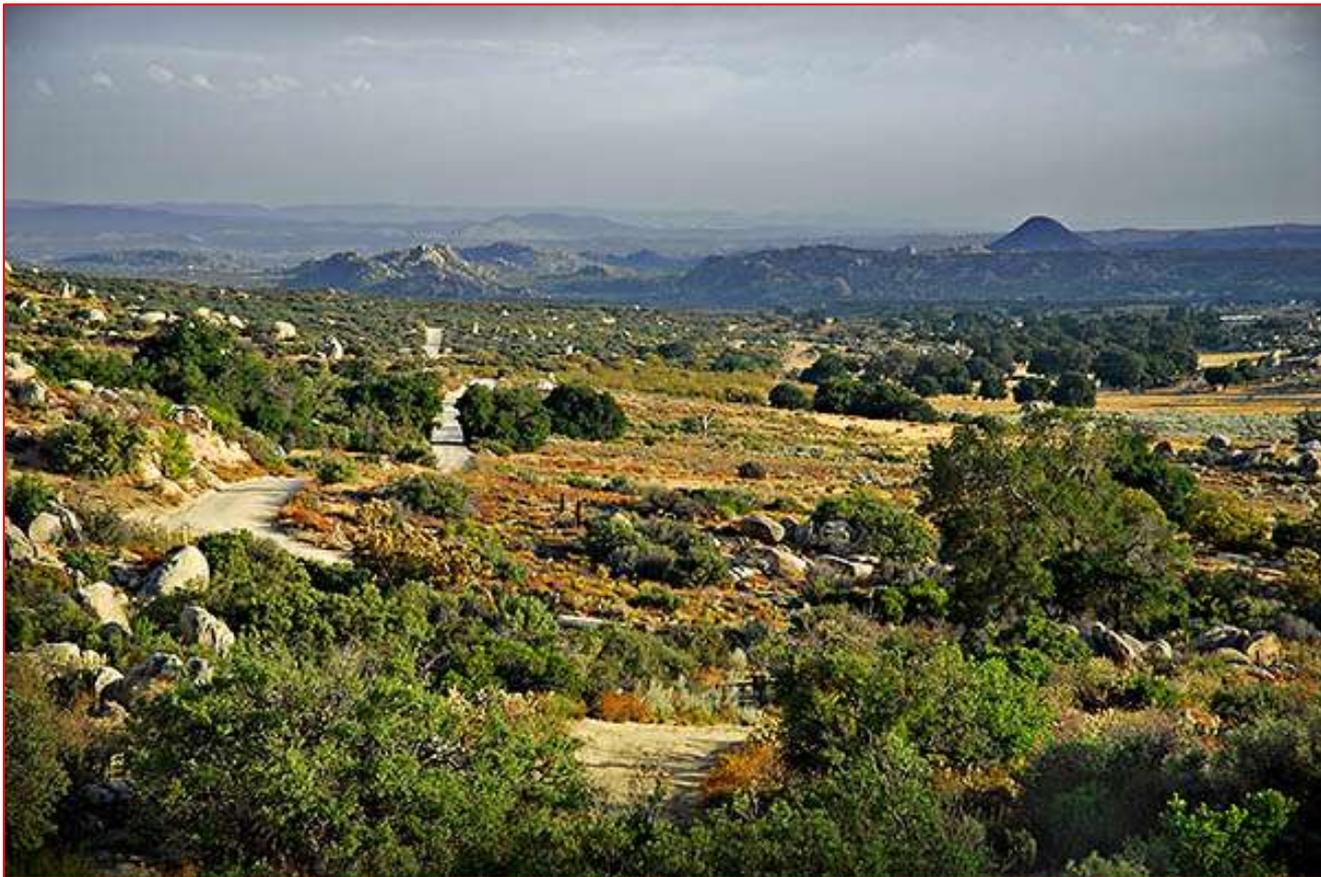
contrary to industry claims

CUMULATIVE ADVERSE IMPACTS are a reality

- **Adverse health effects / Quality of life:** low frequency noise, infrasound, shadow flicker, dysfunctional aviation lights, dirty electricity EMF/RF pollution from turbines, power lines, substations, project communication towers. Some homes have had electrical pollution compared to microwave ovens. Kumeyaay Wind turbines impact residents 3 miles away and more. Ocotillo and Boulevard will be surrounded by hundreds of turbines with no way to protect our residents.
- **Increased Class I Fire risk** in high-fire severity zone . Joint state / federal documents confirm this unmitigable risk. *San Diego Gas & Electric wants to cut power to rural communities when the wind blows too hard to prevent fires, but continue to run power through on big lines.*
- **Volunteer Fire Departments:** underfunded, under-equipped, under-trained, and understaffed. Limited mitigation dollars for big projects like Sunrise Powerlink go to fire districts that don't serve us, or spend the money elsewhere. Turbines and substations represent new and cumulative risk.
- **Property Value Losses:** Denied by industry and front men. Losses confirmed by licensed appraisers, average up to 40% with some properties a total loss and abandoned due to adverse impacts and lack of buyers. Enforceable Property Value Guarantee Agreements are needed but resisted by developers.
- **Increased utility rates & fire insurance** Fire insurance is already hard to secure and expensive since 2003 & 2007 fire storms –some sparked by SDG&E's power lines. Some homeowners cannot secure insurance at any price. At least one Boulevard homeowner has to buy insurance through Lloyd's of London and have been told that the policy will be cancelled if wind turbine projects move forward in their Boulevard neighborhood as planned.

Boulevard's Ruggedly Beautiful Mc Cain Valley
Resource Conservation & Recreation Area
attracts tourists that help support local businesses.

Illegally down-zoned by BLM to accommodate Iberdrola's 200 MW Tule Wind,
and a new utility corridor for Sunrise Powerlink—where no power lines exist
Previously protected for visual, biological, and cultural resources / sacred site



**The little house in the foreground belongs to Boulevard couple in their 80's. Tule
Wind turbines are planned on the ridgeline behind their home of 40 years.**

That ridge is part of the Lark Canyon OHV Park. Turbines will be installed inside the park and within about 1,000 feet of this home, and Lark Canyon & Cottonwood Campgrounds. Acousticians tell us that rugged terrain like this increases the adverse impacts of low frequency noise from turbines.



Turbines do represent hazards,

so why are they being proposed for public recreation areas, campgrounds, fire-prone sensitive wild lands, and adjacent to homes, tribal offices, public and private roads, and high voltage power lines ?



German turbine fire reportedly caused by electrical fault.
We don't need this happening in our fire-prone backcountry.



Boulevard, Jacumba , and Ocotillo are not equipped, staffed, or funded to deal with these massive and high risk industrial energy structures / projects Especially the high concentration clusters that we are facing



Iberdrola's Rugby Wind Farm:

A failed turbine rotor assembly
crashed with all 3 giant blades still attached.

It failed on March 14th – just five months after installation

Each blade weighs about 7 tons

Iberdrola wants to install turbines in McCain valley
within 900 feet of homes, campgrounds, and inside an OHV Park.



Enel Turbine Collapse, Fenner, NY

Still under investigation.

Enel wants to install almost 80 turbines on absentee owned ranch land extremely close to many Boulevard homes.

For perspective, See tiny people standing at base of turbine.



Requested GNEB recommendations:

- Focus efforts on energy conservation and point of use renewable energy projects that do not need extensive and invasive infrastructure upgrades and eminent domain. There are many examples, including universities like UCSD our own military bases that are creating micro grids for security and reliability.
- Stop the Fast Tracking and subsidized funding of these bloated large-scale projects, the use of priceless and irreplaceable desert groundwater, and the destruction of sensitive habitat, cultural resources, and virtually defenseless rural communities.
- Listen to and support impacted residents and communities —instead of blindly adopting industry bias as gospel and dismissing valid claims and evidence as NIMBYism.
- Urge the initiation and funding of unbiased third party peer-reviewed full-spectrum noise , electrical , and health studies—using the scientific method and the right measuring tools.
- Support a moratorium on wind turbine projects within a minimum 2 mile radius of occupied buildings, sensitive receptors ,and non-participating property lines, until valid dose response peer reviewed studies have been completed.
- Help impacted tribal residents who are suffering now from the Kumeyaay turbines but cannot move away and may even be prevented from speaking out about adverse impacts from projects that do, or are expected to, generate revenue for their tribal government. Tribal benefits and jobs can be withheld to control the actions of individual members. The Bureau of Indian Affairs, Indian Health Services and Housing Authority do have independent trust responsibilities that should not be ignored.

"Instead of being politically correct, we need to be scientifically correct, and look for better solutions"

John Droz, Jr. / Physicist

Thank you...