This presentation has been developed by Posey County residents, with focus on our specific situation. Other sources were used to help describe certain facts, but this is not a hand-out from other states or counties – this is real information validated by people who live in and care about the future of Posey County.
Topics

• Project Overview
• Proposed turbine design & installation
• Wind Farm subsidies
• Setbacks and related issues
• Trespass Zoning
• Noise Issues
• Shadow Flicker issues
• Property Value impacts
• Tipton County, IN – Commissioner regrets
• Medical Helicopter access
• Weather radar performance issues
• Decommissioning
• Negative affects on Community
• Proposed Guidelines
• What You Can Do To Help!
Overview of Proposed Posey and Gibson County Projects

• E.ON, an electric utility company from Germany, has proposed two Wind Farm projects for the area – one in Posey and one in Gibson County

• The total number of turbines is not yet defined, but E.ON has stated a target of 81 in Posey

• The projects would consist of at least new 1 electrical substation (likely 1 per county) which every turbine must be directly tied to for power transmission through a combination of buried and overhead transmission lines from each turbine (mostly buried)

• Private landowners who are interested in participating in the project must sign a 50 year lease, with a host of restrictions on land use and control during the lease period

• Landowners started being approached by E.ON in 2018, with the first information meeting in November at Gibson Southern High School, followed by one in December 2018 at North Posey High School hosted by E.ON reps

• A public meeting took place in Princeton with the Gibson County Commissioners (3/5/2019) with another update

• Neither the Posey County Area Plan Commission nor the Posey County Commissioners have been approached by E.ON as of 4/4/19.

Proposed Turbine size, and design, and installation

• Specific turbine model have not been selected, but E.ON has stated the power range to be between 2.2 and 4.2MW, and has also mentioned Vestas as the possible manufacturer.

• MW (megawatt, or million watts) is the measure of max power generated by the turbine during ideal conditions. Regardless of power output in the 2.2-4.2MW range, the height is expected to be similar at ~500 ft. from base to top of blade at highest point, with no contractual height limit.

• The hub heights (center of the blades, where the turbine center/lights are located) vary but often exceed 300’ for these models. Turbine RPM (revolutions per minute) are generally 14-16 RPM.

• The speed at the tips of the blades approaches 200 MPH on most options for our area – an important factor when we discuss safety considerations, as this speed increases with blade length.

• Each blade weighs 14,520 lbs. on a V90 3.0MW unit – that a rotational weight of over 10 cars.

• Installation of a turbine is highly damaging to roadways, field tiles, and surrounding areas due to the heavy equipment required (cranes, semi trucks, etc.).

Sources: E.ON handouts at Gibson Southern High School meeting in 2018 (Q&A handouts)
https://www.windpowermonthly.com/article/1437274/vestas-scales-42mw
Power Distribution

• Power generated from wind turbines is sent directly to broader grid shared by other providers and consumers

• Wind generated power does not directly power homes nearby

• Renewable Energy Certificates (REC’s) can be purchased to indicate the generation of 1 MWh of electricity from a qualifying provider (wind, solar, etc.)
Wind Farm Subsidies

• The federal government imposed the Renewable Electricity *Production Tax Credit*, or PTC, in 1992 in an effort to promote renewable energy. The PTC, currently 1.9 cents per kilowatt hour for the first 10 years of a wind farm’s operations, has been extended several times by Congress. It is scheduled to begin phasing out at the end of 2019. The PTC and tax depreciation allowances cover more than 50 percent of the capital costs of a typical wind facility.

• With the PTC set to phasing out by the end of 2019, companies are in an aggressive race to erect as many wind turbines as possible across the nation. Corporations that start construction of wind facilities before December 31, 2019 will continue to receive the full PTC tax credit payments until December 2029.

• The planned phase out causes a PTC drop of 20% per year starting in 2020

• In the case of the proposed Posey and Gibson projects, the majority of the tax dollars would be sent to an overseas company (E.ON is based in Germany)

• Warren Buffett stated in 2014: “We get a tax credit if we build a lot of wind farms. That’s the only reason to build them,” he said. “They don’t make sense without the tax credit.”

Sources: https://www.heartland.org/_template-assets/documents/publications/TPPF-Erickson-renewable-subsidies.pdf
https://www.nationalreview.com/2016/06/wind-energy-subsidies-billions/
What is a Setback?

• **Setback** is the required distance from the turbine base to any defined location (property lines, homes, roads, schools, etc.). The purpose of having a setback is related to safety risk, noise problems, light flicker, electromagnetic interference, ice throw, etc.

• E.ON is proposing a setback of 1250 ft. from occupied dwellings, and 550 ft. from non-occupied buildings or property lines including roadways

• There are MANY reasons this proposed setback is **unacceptable**, as outlined in upcoming slides.

• In Indiana alone, many counties have outright banned Industrial Wind Turbines for some of the same concerns – these counties include Allen, Boone, Fulton, Marshall, Wayne, and Wells. Pulaski and Tippecanoe counties are currently working on bans.

• Other counties in Indiana have put ordinances in place that require specific setback distances – Wabash and Noble counties have 3960 ft. setbacks.

Sources: E.ON handouts at Gibson Southern High School meeting in 2018 (Q&A handouts)

The Rensselaer Republican – September 2018
Examples of issues related to insufficient Setback Distances

• Safety – The risk of projectiles flying off high speed turbine blades is not as low as you might think
  - The Wildcat Wind Farm Northeast of Indianapolis suffered 4 structural failures between 2012 and 2016, with two blade failures within 2 months.

• Windpower Monthly published data indicating **3800 blade failures** will occur annually as of 2015

• The Vestas turbine manual in 2007 defined the safe setback distance as 500m, or **1640 ft based on safety risk alone:**

  **DANGER FALLING TURBINE PARTS** In case of a fire in the nacelle or on the rotor, parts may fall off the wind turbine. In case of a fire, nobody is permitted within a radius of 500 m from the turbine. (See Exhibit 3)

• If a runaway operation should occur, the plant must be evacuated immediately by running upwind, and access to the surrounding area in a radius of at least 500 metres must be restricted.

Sources:
- https://www.windpowermonthly.com/article/1347145/annual-blade-failures-estimated-around-3800
Examples of issues related to insufficient Setback Distances

• Safety – The Vestas setback requirement of 1640 ft. has since been removed from their manual, likely due to concerns from citizens who read this information during Wind Farm project planning.

• However, Physics and turbine dynamics have not changed for the better – tip speeds continue to increase, and turbine heights are significantly higher today than in 2007.

• Multiple university studies support increased setbacks due to projectile risks:
  The National Wind Technology Center, part of the National Renewable Energy Laboratory, partnered with The University of the Pacific in 2018 to write an article titled “Analysis of Blade Fragment Risk at a Wind Energy Facility.” This study concluded: “A setback of 3 times the overall turbine height resulted in a probability of impact with a dwelling that would increase the risk above “routine.” Therefore, a setback of 3.5 times the overall turbine height is proposed to lower the risk.”

• For the turbines proposed in our area, this would drive a setback of at least 1746 ft.

Sources: https://onlinelibrary.wiley.com/doi/abs/10.1002/we.2326
Examples of issues related to insufficient Setback Distances

- Safety – In 2011, Wind Energy partnered with the Georgia Institute of Technology’s aerospace engineering department, and University of Alabama’s Mechanical and Aerospace Engineering departments to publish a research article titled “A Method for Defining Wind Turbine Setback Standards.” [Published online in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/we.468]

- The following graphics from this study shows the range/spread of turbine blade fragment throws:

  There are documented blade fragment throw distances of over 1 mile during extreme cases of turbine blade failure. [Caithness]

<table>
<thead>
<tr>
<th>Turbine (MW)</th>
<th>Tip speed (rad s⁻¹)</th>
<th>Theoretical maximum throw distribution (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.66</td>
<td>70.03</td>
<td>439(1440 ft.)</td>
</tr>
<tr>
<td>1.5</td>
<td>80.50</td>
<td>590(1935 ft.)</td>
</tr>
<tr>
<td>3.0</td>
<td>76.05</td>
<td>526(1725 ft.)</td>
</tr>
</tbody>
</table>

Sources: http://camm.gatech.edu/images/7/7a/Wind_Turbine.pdf
http://www.caithnesswindfarms.co.uk/AccidentStatistics.htm
Examples of issues related to insufficient Setback Distances

• **The same study concluded:**

“Wind turbine setback standards designed to protect people, property and infrastructure from impact by thrown blade fragments play an important role in wind farm planning and can often be a determining factor in the number of turbines that can be placed within a given parcel of land. Given the critical importance of these regulations, there is a desire to develop setback standards based on a physical model of blade throw rather than arbitrary rules of thumb. First, a physical model for full or partial blade throw based on rigid body dynamics was described. This model, coupled with Monte Carlo simulation techniques, was used to simulate tens of thousands of blade throws for three example wind turbines of varying size. **It was shown that typical current setback standards do not provide adequate protection in most cases.** Then, the importance of fragment release velocity in determining maximum throw distance was analytically demonstrated, and its effect verified through analysis of Monte Carlo results. Normalizing throw distance by fragment release velocity yielded a near-linear relationship between this normalized distance and the percentage of impacts that lie within this distance from the turbine. A final example used this relationship to determine a proper setback distance for an example turbine based on an acceptable level of risk. **Setback development using this methodology allows regulators to mitigate risk using valid engineering analysis rather than arbitrary rules that provide inconsistent and inadequate protection.**

Sources: [http://camm.gatech.edu/images/7/7a/Wind_Turbine.pdf](http://camm.gatech.edu/images/7/7a/Wind_Turbine.pdf)
What is Trespass Zoning?

• Trespass zoning is a situation where “non-participant” land owners have Property Rights effectively violated by the safety evacuation range being projected onto their property. This limits future uses, and in many cases puts people at a safety risk when present in these areas on their own property.

• This situation is avoided with safety setbacks measured from PROPERTY LINES. Keep in mind, the 1640 ft. setback is the MINIMUM requirement from Vestas, with engineering studies suggesting increased setbacks as a safety requirement.
Turbine Noise Overview

• Wind turbine noise concerns are likely the most difficult to explain and discuss due to hundreds of reports on both sides of the argument. There are reports suggesting noise is simply an annoyance, and reports suggesting significant health risks related to cardiovascular issues, insomnia, etc.

• In the legal agreement with the Wind Farm company, there is the following statement: “Owner acknowledges that there may be risks associated with windpower energy generation, including but not limited to electromagnetic fields, shadow, stray voltage, ice throw and health effects potentially associated with flicker, noise and air turbulence, and owner knowingly waives all claims related to such risks....”

• Two key facts for Posey and Gibson Counties, according to a University of Notre Dame “Wind Turbine Acoustics” course [AME 40530], “Wind turbine noise is more commonly a concern at lower wind speeds.” And, “In general, sound pressure levels [increase] with the rotor diameter.”

• There are literally hundreds of reports of complaints from citizens who live around Industrial Wind Farms, often resulting in lawsuits and people moving from their homes to avoid the exposure to noise issues.

Source: https://www3.nd.edu/~tcorke/w.WindTurbineCourse/Acoustics_Presentation.pdf
Turbine Noise Overview, continued...

- See the Indiana Wind Speed map to right:
- This map shows the wind speeds in Posey and Gibson counties to be far lower than in all areas currently occupied by Industrial Wind Turbines.
- The correlation between greater noise concern and lower wind speeds is an obvious problem in terms of the proposed project in our specific area of Indiana.
- The same goes for Illinois – there are no Industrial Wind Farms in operation where wind speeds (and more noise concern) are consistently this low.

Sources: [https://windexchange.energy.gov/maps-data/40](https://windexchange.energy.gov/maps-data/40), [https://windexchange.energy.gov/maps-data/37](https://windexchange.energy.gov/maps-data/37)
Turbine Noise Overview, continued...

- Keeping in mind the proposed turbines sizes (MW output) are possibly the largest in the state, this factor needs consideration related to noise output and risk
- The “type” of noise is also a critical factor. The low frequency component of the turbine noise has been well documented to be the main problem in terms of health/sleep/annoyance issues in previous Wind Farm installations
- In particular, the low frequency noise has a much greater ability to travel through houses, schools, etc. (think about bass in car stereos), making this type of noise much more intrusive than road traffic noise or other ambient noise

According to a Danish study in 2010:

“The results confirm the hypothesis that the spectrum of wind-turbine noise moves down in frequency with increasing turbine size. The relative amount of emitted low frequency noise is higher for large turbines (2.3-3.6 MW) than for small turbines (≤ 2 MW). The difference is statistically significant for one-third-octave bands in the frequency range 63-250 Hz. The difference can also be expressed as a downward shift of the spectrum of approximately one third of an octave.”

From the same study:

When discussing "future" installations of increasing turbine size, they calculated "a turbine of double size emits more than the double sound power....." "It must be anticipated that the problems with low-frequency noise will increase with even larger turbines."

- In late 2018, the World Health Organization (WHO) acknowledged wind turbine noise as a possible health hazard

Sources:
Wind turbine noise concerns from school superintendent:

• See the letter to the right written by an Illinois school superintendent after an industrial wind farm went up in his school district. This should be a serious concern for everyone in our community regarding the validity of the noise/health relationship with these turbines. During the approval process the superintendent was neutral. After the installation, he realized the negative impact and voices this in the following letter:

Source: http://www.windaction.org/posts/38759-illinois-school-superintendent-letter-turbine-noise-creating-health-problems-for-students#XIk2nWeWx1M
Turbine “Shadow Flicker” Risks

• In the legal agreement with the Wind Farm company, there is the following statement: “Owner acknowledges that there may be risks associated with windpower energy generation, including but not limited to electromagnetic fields, shadow, stray voltage, ice throw and health effects potentially associated with flicker, noise and air turbulence, and owner knowingly waives all claims related to such risks....”

• Wind Farm companies will argue they perform “flicker studies” to minimize the impact to the community, but there are many documented cases even at great distances where this issue goes on without resolution

• Based on the possible layout of turbine locations in Posey and Gibson county, many homes and properties would be within the “flicker zone” of turbines installed on properties already signed into contracts

• According to a flicker study performed for a proposed wind farm in Alabama:

  “At distances less than 1000 meters, shadow flicker may be more noticeable.”

That’s 3280 feet - To make matters worse, the proposed turbines in the study were significantly shorter than those proposed in Posey and Gibson county. Taller turbines = greater risk and distance of projected shadow flicker

Turbine “Shadow Flicker” Risks, continued...

Fond du Lac County, Wisconsin 2008
Property Value Issues

• Similar to the Noise issue, Wind Farm companies will argue that Property Values are not affected negatively by Industrial Turbine installations, siting a study performed by the Lawrence Berkeley National Laboratory and supported by Office of Energy Efficiency and Renewable Energy (Wind and Water Power Technologies Office) of the U.S. Department of Energy under Contract No. DE-AC02-05CH1123

• While the study deserves review, there are clear conflicts of interest in who drove the study relative to their support of Wind Energy

• Upon further research, many property value concerns are found:

McCann Appraisal performed a study in Tipton County, IN showing evidence of a negative value impact, saying:

“A wind farm creates an easement over neighboring non-participating properties that impairs the value, or a regulatory taking of private property rights, or uncompensated taking.” ".. The average value loss started dropping within 2 miles of the wind farm, starting at 25 percent and going up."

http://www.journalreview.com/opinion/article_7bf96384-4d7a-11e8-9b99-97a87fcf4ab.html
https://www.osti.gov/servlets/purl/1165267
Property Value Issues, continued…

• According to the London School of Economics, wind farms decrease property value by up to 12 percent if the home is within a (1.2 mile) radius and can even affect a property’s value up to (9 miles) away from the home.

• In Canada, the Ontario Superior Court ruled in 2013 that landowners living near large wind farms suffer from lower property values. That court said it decreased property values by 22 to 55 percent.

• A Forbes magazine article from 2015 stated the following:

“It surely seems logical enough, anything that would cause a potential buyer to value a property less lowers its value. A piece of property, after all, is just what someone is willing to pay for it. Markets are about supply and demand, and all things being equal, why would somebody choose to buy a home with an industrial wind farm nearby? And simply put, it seems impossible to believe that wind turbines would actually add to a property’s value.”

Based on these and other sources below, it can not be universally recognized that we would not see significant decreases in property values in Posey or Gibson County. The unusually large size of the proposed turbines adds even more concern on the property value subject - the other studies were based on wind farms with turbines smaller than those proposed here. This is another major concern for our community related to the wind farm project.

Sources: https://www.forbes.com/sites/judeclemente/2015/09/23/do-wind-turbines-lower-property-values/#3a6f66e948cb
https://www.theguardian.com/money/2014/apr/08/windfarms-reduce-house-prices-compensation
Tipton County Commissioner: “Hard lessons can be learned from Tipton County wind turbine project”

• Tipton County’s wind turbines are 1.6MW (Wildcat Farm)

Former Tipton County Commissioner (2009-2012) Jane Harper, who initially supported their wind farm project, stated in 2017:

“The property values of the non-participating landowners **within even a mile of the turbines will decrease**. It may not show in the “assessed value,” but the stark reality is that the pool of people interested in living in a home close to the turbines is far less than those interested in homes far away from the turbines.”

“Since I have now experienced the noise and shadow flicker in the homes of non-participating landowners at distances of even 1500 feet, **I would recommend a 1/2 mile setback from the property line of any non-participating land owner.**”

“I live with the people who are adversely affected by industrial wind turbines and deeply regret having signed the documents enabling the construction of the wind farm.”

Sources: [https://www.pharostribune.com/opinion/columns/article_9575ea76-5364-514c-b541-943738be4744.html](https://www.pharostribune.com/opinion/columns/article_9575ea76-5364-514c-b541-943738be4744.html)  
Medical Helicopter access issues

• By installing such a broad spread of 500’ wind turbines across our area of the county, the ability for LifeFlight or other medical helicopters to access rural areas is greatly diminished

• FAA guidelines require a 2000’ clearance on each side of the helicopter landing approach at night. From the map of “signed” land, it is easy to see how much the project would restrict the landing options

Source: Kate Morgan, LifeLine manager at IU Health, Indianapolis, via www.journalreview.com
Weather Radar Performance issues

• Meteorologist’s comments prove Wind Turbines block weather radar:

Just a little over 2 years ago, a dangerous tornado ripped through portions of Posey County...many buildings were lost but lives were spared thanks in part to recent advances in weather radar technology that allow forecasters to pinpoint tornado locations and possible paths, giving warning to those who may be in danger. This was the second tornado to pass through this area in the past 17 years, with many other possible tornados tracked during this time period. The paths these two tornados took passed over land that has recently been leased to E.ON or extremely close to it.

• In Dewitt County (Illinois) a local meteorologist on Channel 25 (WEEK channel) stated the following while tracking a tornado:

“This has been a little difficult to keep track of the last little bit here because there are a lot of wind farms in the area and those wind farms really interfere with the rotation...the velocity aspect of radar...[it] can kind of be problematic and that’s been the case lately....”

In another video clip, the meteorologist is heard saying “...those wind farms actually mess with our Doppler velocity returns that get shown on radar...those moving wind turbines...so likely the rotation could very well be more significant than we are seeing right now.”

Video clips including quotes on next slide
Weather Radar Performance issues, continued...

- From NOAA’s National Weather Service:

  - Impacts up to 3 km
    - Receiver Damage (if >53 dBm returned)
    - Nacelles can block beam (within 3 km)
    - Blades can block beam (within 1 km)
    - Personnel Safety (within 200 meters)
    - Limited or no forecaster workarounds

  - Impacts up to 18 km
    - Multi-path scattering
    - Multiple elevation scans penetrated
    - Bulk Cable Interference (>50 V/m)
    - More difficult to work around

  - Impacts within RLOS
    - Wind turbine clutter
    - Algorithm impacts
    - Some workarounds available

Source: https://www.nec.noaa.gov/WSR88D/WindFarm/TurbinesImpactOn.aspx

18 km = 11 miles
Weather Radar Performance issues, continued...

• Quotes from NOAA’s National Weather Service:

“Rotating wind turbine blades can impact the radar in several ways. Wind turbines can impact the NEXRAD radar base data, algorithms, and derived products when the turbine blades are moving and in the radar’s line of sight (RLOS); and, if turbines are sited very near to the radar their large nacelles and blades can also physically block the radar beam or reflect enough energy back to the radar to damage the radar’s receiver hardware.”

“Impacts increase greatly as wind turbines are sited closer to the radar, especially within 18km (assuming level terrain), as radar operator workarounds become more difficult.” [18km=11mi]

“Wind turbine clutter has not had a major negative impact on forecast or warning operations, yet. However, with more and larger wind turbines coming on line, radars in some parts of the country will have multiple wind farms in their line of sight. Cumulative negative impacts should be anticipated – which, at some point, may become sufficient to compromise the ability of radar data users to perform their missions.”

Source: https://www roc noaa gov/W5R88D/WindFarm/TurbinesImpactOn.aspx
Weather Radar Performance issues, continued...

• Images from NOAA’s National Weather Service:

  ![Weather Radar Image](https://www.roc.noaa.gov/WSR88D/WindFarm/TurbinesImpactOn.aspx)

  ![Wind Farm Radar Image](https://www.roc.noaa.gov/WSR88D/WindFarm/TurbinesImpactOn.aspx)

• The citizens of Posey County rely on weather radar to keep us informed as storms move through our area. Are we willing to jeopardize the accuracy of our weather updates and the safety of our citizens so we can host an industrial wind farm?

Source: [https://www.roc.noaa.gov/WSR88D/WindFarm/TurbinesImpactOn.aspx](https://www.roc.noaa.gov/WSR88D/WindFarm/TurbinesImpactOn.aspx)
Decommissioning Concerns

• E.ON is proposing to cover decommissioning costs only after 20 years of wind farm production

• If the project fails for any reason within the first 20 years (bankruptcy, equipment failures, wind speeds not adequate...) E.ON would not cover the complicated decommissioning process of the turbines

• This is a risk the county and its residents should not burden – many counties now require 100% UP FRONT bonding from the wind company to ensure complete decommissioning is covered before any project is started

• Decommissioning includes turbines, concrete base, utility lines, substations, access roadways, etc.

• Recommendations are as high as $250,000 required per turbine system up front to cover all decommissioning costs

• Source: https://digitalcommons.law.ou.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&amparticle=1079&ampcontext=onej
Tearing Towns Apart – A Major Concern

- In a 2015 Honors Thesis titled “Sociological Effects of Wind Farms in Maine” written by Jeanne Barthold of Colby College (currently pursuing a PhD in Mechanical Engineering), several notable conclusions are found throughout the 65 page body of research:

“The rural communities most directly affected by the wind farms are benefitting economically. However, from my interviews, I found that individuals in many of the communities I studied feel that their quality of life has tremendously decreased at a cost that is absolutely not worth it. My findings show that the greatest problems are with noise, deception, and lies from the companies commissioning the wind farms, the desire for speedy implementation resulting in a complete lack of policy...”

“I began the process of researching this thesis with a very pro-wind energy stance. My hypothesis was that if Maine legislation was more careful and more detailed in regards to the process of approval for wind farms, citizens would be happier about community wind farms, and they would therefore be much more successful energy sources. I wanted to learn how this particular technology affects society and communities. Some of what I learned in this process reflects what I hypothesized, however my attitude and perspective toward wind energy has changed from me being supportive of wind farms in Maine to me thinking that in Maine, the costs are larger than the rewards, and wind farms may be a bad idea here.”

“...as you have seen in this paper it also shows that the farms have tremendous negative and positive effects on society. Health is generally the largest concern for individuals in society, and recent studies on infrasounds show that turbines have extremely negative consequences for health and quality of life. If wind farm construction in Maine continues, it is absolutely imperative that some kind of regulation is passed that requires the turbines be more than two miles as the crow flies away from any house if we want to keep Mainers happy and healthy.”

Source: https://digitalcommons.colby.edu/cgi/viewcontent.cgi?article=1795&context=honorstheses
“It has divided the community, even families,” said Hopkinton Supervisor Sue Wood, of New York. “The majority doesn’t want the wind turbines, but the people who signed leases really want it.” As an official of the town, Wood stated she felt torn. She wants to make everyone happy but realizes that will never happen. The money Avangrid (the wind developer) has offered is nice, she said, “but at what cost to our community?”

Posey County can be compared to the rural communities of Hopkinton and Parishville. We’ve all been picked to host industrial wind farms and have seen or are beginning to see neighbor pitted against neighbor and lifelong friendships dissolved as residents battle over the industrial wind farm proposal. If you don’t think the communities of Poseyville, Wadesville, and the surrounding areas can be strongly divided by this issue, think again. Four months later, the Howard County Commissioners terminated their agreement with E.ON, and passed a resolution to enact more restrictive standards on wind farms and to require wind farms to obtain a special use permit. The commissioners were questioned on their silence in the early process of the wind farm proposal.

Howard County Commissioner Paul Wyman stated, “I realize that some of you thought we were being arrogant by not making public statements or by not answering hypothetical questions. We hope you can appreciate why we were so adamant about not negotiating on the front page of the newspaper of having something we said publicly used against us.”

We can’t stop the damage that has potentially already been done to the friendships in the Posey County community. We can keep the divide from becoming greater by sticking together and supporting safe setback distances from property lines that limit or eliminate safety risks, noise issues, light flicker, and the many other problems these industrial installations present.

Other issues

- Electromagnetic field issues
- Uncontrolled field fires
- Ice throw from turbine blades in the Winter months
- Stray voltage
- Angry neighbors and the resulting loss of “community”
- Population decreases
- School enrollment decreases
- Road condition problems after they are initially repaired
Overview of Proposed Project Requirements

• Increase setback to a minimum of 4X height of turbine (base to tip) to any non-participating property line, BASED ON SAFETY ALONE. See slides 8-12 for supporting data/documentation.

• In combination with the other factors discussed in this presentation (noise issues, light flicker, etc.) it should be mandated to extend the minimum setbacks from any property lines to at least 7X height of turbine, in line with the 10 other Indiana counties who have standards at least this stringent. See slides 13-21 for supporting data/documentation supporting this recommendation.

• There is not a magic number or calculation to determine the exact appropriate setback – these recommendations are based on real concerns, supported by data and actual experiences from people who live in/near wind farms, or from people who have been involved in the approval processes. Our recommendation is based on this data, in combination with the other real concerns such as weather radar performance, division of the community, etc. as described in this presentation.

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• 2 mile setback from incorporated town limits. (Mt. Vernon, Poseyville, Cynthiana, Griffin, & New Harmony)
• 2 mile setback from clearly defined unincorporated town borders (Wadesville, Stewartsville, Blairsville, Parkers Settlement, & St. Wendel)
• 2 mile setback from groups of homes (Midway near NPHS, 25+ homes within a square mile, etc.)
• 2 mile setback from all schools
• 2 mile Property Value Guarantee for residents who decide to sell their home and leave
• Mandate a decommissioning bond be set upfront before any approvals are made - $250k/turbine system
• 80 acre minimum per turbine
• If any company could not comply with the minimum responsible and safe setback standards, Posey and Gibson County would not be the right location for such a project to be given approval
How you can help

• **Attend the upcoming Area Plan and Commissioners Meetings!!**

• Talk to your friends and neighbors about the risks!!! Education on this subject is the most powerful defense

• **Sign the petition! Grab a yard sign!**

• Facts are facts – we aren’t arguing against the possible advantages from financial income or green energy, but the issues from installing turbines of this size so close to our communities is **unacceptable**

• Continue to kindly reach out to your county officials for support based on the FACTS and data shown in this presentation - arguing about how wind turbines are ugly is not a data-based argument and distracts from the core objective – Protecting our citizens safety and property rights!