

Setbacks of wind turbines

1 Mile for Shadow Flicker. Shadow flicker is proven to cause heart irregularities, migraines, dizziness, vertigo, sleep disturbance, stress, and cognitive impairment.¹ It is often suggested that 10 times the rotor diameter is the necessary minimum distance for the towers, and a maximum of 30 days per year of direct impact on humans.² Republic Kansas towers are 600' tall and have 188 foot blades that bolt to the hub making the rotor approx. 400 foot in diameter. At TransAlta's display in the Stastney Center an Easel stated 700 foot towers. If they have 500 foot rotors, then we need a 5000 foot setback or approx. 1 mile.

5 Miles for Visual blight. Currently there are places in Thayer County that are over 5 miles from Kansas where over 70 wind turbines are visible. This is a daytime loss of natural beauty and landscape. At night it is difficult to sit outside and relax when there are over 70 lights flashing in the horizon. Even at 5 miles, the wind turbines negatively impact quality of life.

20 miles for Increased electrical rates. Yes, Solar And Wind Really Do Increase Electricity Prices -- And For Inherently Physical Reasons.³ In Kansas electrical rates grew at a percentage that was 10% greater in areas with wind and solar from 2009 to 2017.³ This is in addition to the taxes we are paying to subsidize these projects. If you are within 20 miles of the project you can suffer the increased electrical rates.

2 miles for proper Health. In the book "Wind Turbine Syndrome" Dr. Nina Pierpont explains in simple, layman's terms how turbine infrasound and low frequency noise (ILFN) create the seemingly incongruous constellation of symptoms she has christened "Wind Turbine Syndrome". Many people living within 2 km (1.25 miles) of these spinning giants get sick. So sick that they often abandon (as in, lock the door and leave) their homes. Nobody wants to buy their acoustically toxic homes. The "lucky ones" get quietly bought out by the wind developers—who steadfastly refuse to acknowledge that Wind Turbine Syndrome exists.⁴ These low frequency noises are 20-200 hz.

4 miles for Drought. Maps show the footprint of wind turbines correspond with the footprint of less rainfall. As a conclusion, it can be said that it is certain that wind farms change the local climate. Very large wind farms or many wind farms also have an effect on the global climate. Soil moisture is reduced by wind farms not only downwind but also upwind.⁵

10 miles for Risk of ownership. If the wind contract is bought out by an unfriendly country, then a 10 mile setback may not be enough. A top Chinese wind turbine maker has been found guilty in the U.S. of stealing trade secrets -- an act that "nearly destroyed" an American tech firm, according to prosecutors.⁶ Writing in the Washington Times (Aug. 14), Hoffman points out that "GH America would use the cover of a windmill farm renewable energy business venture to spy on behalf of China's ruthless dictatorship."⁷

8.7 miles for Property values. Wind Turbines Crush Rural Property Values & Leave Many Homes Worthless. According to research in 2014 by the London School of Economic, wind farms can cut as much as 12% off the value of homes within a 2 kilometer radius, reducing property values as far as 14 kilometers away.⁸ Fourteen Kilometers equals 8.7 miles.

7 miles for Vibration. Scotland, it was also found that low-frequency vibration signals can propagate **beyond** a 10 km distance from the wind farm.⁹ Ten kilometers equals 6.2 miles.

1 mile minimum, for Hunting & Fishing opportunities. Whales are found dead near offshore wind development. For all the finger-pointing, everyone does agree that a lot of whales are dying.¹⁰ Estimates suggest that turbines in North America kill 600,000 to 949,000 bats and 140,000 to 679,000 birds a year.¹¹ A Swedish study states wind turbines have affected the population of deers, and the larger the wind farm, the fewer deers, will return to a wooded area.¹² Our results show that wind farm operations affect terrestrial animals both in wind farm interiors (among the turbines), as well as within **at least** a 700-m buffer zone around each wind farm.¹³

2.5 miles for Dairy production. Joly recorded that milk production fell from 10,000 liters a year to 7,000 liters after the first turbines were installed in 2011 and then to 5,000 liters after the project was extended in 2013. The closest turbines – Enercon E70 2MW machines – are 1.8km away.¹⁴ 1.8 kilometer equals 1.12 miles. For 4MW turbines (TransAlta 700 foot towers) you could see problems at 2.24 miles.

Conclusion:

If we want to avoid all issues to non-participants, we need to have setbacks of at least 20 miles.

If we choose to compromise, and average these setbacks, then we need 6.12 miles.

A 6 mile setback would be more than a compromise.

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