

Renewable Energy In Michigan: Wind Farms

Renewable energy has gained momentum in the past decades. Once it was discovered that pollution was destroying the ozone layer, clean energy was being sought out as a solution. There are many different types of renewable energy, but I will be focusing on wind power and wind farms in Michigan. While wind farms have many benefits, they are still controversial. Benefits of wind power include producing renewable energy, reduces use of fossil fuels, decrease in pollution and it creates jobs to erect these turbines.¹ People may disagree with the use of wind farms because the turbines create noise, can threaten wildlife, wind is unpredictable, not all areas can take advantage of wind power, and are not visually pleasing.²

Wind farms are very significant in Michigan due to the Great Lakes and the amount of lakeshore to harness wind coming across the water. Therefore, Michigan is a perfect location for wind farms. Michigan law requires that by 2015, ten percent of energy production must be renewable energy.³ Most of the materials needed to produce the wind turbines are located in Michigan which allows them to be manufactured here. Since the renewable energy law passed in 2008, 10,000 jobs have been created in Michigan.⁴ This has helped the economy in Michigan attempt to bounce back from the recession. There are also tax breaks and incentives for citizens who allow wind turbines to be erected on their property.⁵

With this issue, I would like to research the area of Gratiot County. In Gratiot County there is a wind farm that spans 30,000 acres.⁶ It spans across Bethany, Wheeler, Lafayette, and Emerson townships.⁷ These wind farms will produce 212.8 megawatts of electricity, which can power more than 50,000 homes over the next twenty years.⁸

I would like to further explore the wind farms in Gratiot County to investigate how the wind turbines effect the environment, including the people around them. I have driven past these turbines countless times and would be interested to see how loud they are, in addition to other possible problems they might cause. However, I would also be interested to see how well these turbines produce energy as compared to other modes of production. I would also like to compare and contrast the other modes of energy production, such as coal, with wind energy to weigh the advantages and disadvantages of each to determine the better solution.

¹Lauren Valentino, Viviana Valenzuela, Audun Botterud, Zhi Zhou, and Guenter Conzelmann, "System-Wide Emissions Implications of Increased Wind Power Penetration" *Environmental Science and Technology* 46, no. 7 (2012): 4200-4206.

²"Disadvantages of Wind Energy." *ConserveEnergyFuture*.

³ Jacob Kanclerz, "Renewable Energy Powers up Michigan Manufacturing," *Great Lakes Echo*, 2011, <http://greatlakesecho.org/2011/10/27/renewable-energy-powers-up-michigan-manufacturing/>

⁴ Kanclerz, "Renewable Energy Powers", 2011.

⁵ Barrie Barber, "Largest Wind Farm in Michigan Rises from the Cornfields in Gratiot County," *Mlive.com*, 2011, http://www.mlive.com/news/saginaw/index.ssf/2011/09/largest_wind_farm_in_michigan.html

⁶ Barber, "Largest Wind Farm...", 2011.

⁷ Barber, "Largest Wind Farm...", 2011.

⁸ Barber, "Largest Wind Farm...", 2011.

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