

How Might We Put Wind Farms in the Great Lakes So That We Don't Pollute the *Environment?*

By: Sarah Gubing & Emily Eberhardt

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Wind Farms and What They Are

Emily Eberhardt

Wind farms are a renewable, sustainable, and a differing source of energy that people should use every day. The reason we use them is so we don't pollute the earth. The energy sources we use most often pollute the earth. We will also run out of them, for example coal and oil. Whether you're a 4th grader or an adult, I'm going to show you why wind farms are amazing. Here are three things that you should know about spectacular wind farms.

Wind farms are a renewable source of energy. A renewable source of energy is a source of energy that never can end. Most energy we use is coal and oil, which we will eventually run out of. Coal and oil pollute the earth, while wind farms do not. Some other examples of renewable energy are: solar energy, fire, and of course windmills. What wind farms do is harness wind and turn it into energy. That's amazing right?

Wind farms are also a sustainable source of energy. A sustainable source of energy is a source of energy that works for a long time. Coal and oil are not sustainable. A wind farm does not let you down. Some other examples of sustainable energy are: solar lights and water power. Wind farms never stop doing what they are supposed to do, as long as there is wind.

Wind farms are a differing source of energy. A differing source of energy is a source of energy that has different types or kinds. Some other examples of differing energy are lights, batteries, and computers. There are many different types of windmills: Stick (Vortex), Blade, and Sensored. As each windmill is invented, it gets better for the environment. This is one of many differing sources of energy that is amazing!

So now I hope I taught you that wind farms are a renewable, sustainable, and differing sources of energy. They are good for the environment too! In the long run they may cost less than coal and oil and don't have to be shipped from other countries. Now I hope you are ready to explore wind farms more and learn more about them or even explain them to others. It is important for everybody to look for ways to make energy renewable, sustainable, and different in order to make earth a better place.

How Wind Farms Work!

Hi! I am here to talk to you about wind farms/wind turbines. I love to talk about wind farms. My favorite thing to talk about is wind farms going in great lakes. I am so glad I get to talk about wind farms. I hope you want to learn about wind farms. Here is how you can learn how wind farms work.

How do wind farms work, people ask? What makes the wind farms blow? The wind makes the wind farms blow. I keep saying wind farms but wind farms are just a lot of wind turbines. Wind turbines work on simple principles. Just as instead of using electricity to make a wind turbine move (like a fan). Wind turbines use wind to make electricity. Wind spins the propeller, around a rotor, which turns a generator, that makes electricity!

Wind is a form of solar energy caused by a combination of three events

- The sun is heating the atmosphere
- Irregularities on the earth's surface
- The rotation of the earth

The term "wind energy" or "wind power" both describe the process by which the wind is used to generate power and electricity. This power can be used for tasks or a generator can convert this power into electricity. Some tasks are grinding grain and pumping water.

Wind turbines turn wind into electricity. Which uses the force to turn the blades. They work like an airplane's wings or helicopter blades. When the wind force moves across the blade, the air pressure on one side decreases. Differences in air pressure across two sides of a blade create lift and drag. The forces of lift are much stronger than drag and this causes a rotor to spin.

I hope you like to learn how wind farms work. Thank you for reading my essay. I really hope you liked it. I loved telling you all about wind farms. What was your favorite part? My was the third paragraph.

Blades

Emily Eberhardt

There are many different types of windmills and they are all very different. I am going to teach you about two. The Vortex (bladeless) and the Blades (windmill with blades) are the two types I'm going to explain. The Vortex is a stick and the blade is a stick with big, sharp blades that can kill birds. Besides killing birds, the blades only come in one size and are an eyesore. In addition, the vortex is silent. Through this paper, you will see that the Vortex is the best solution to using wind as energy.

One example of how the Vortex and Blades are different is the vortex does not kill birds and the blade can. The blades do that by whacking the birds with their blades. This is bad for bird populations and birdkind. There are other possible solutions to this problem (example: bird sensed blade windmills), but I feel the vortex is better. The Vortex does not kill birds because it is a straight pole without blades. It makes tiny vibrations and the birds think it is a dead tree.

Another reason the vortex and the Blades are different is that the Vortex has multiple sizes and weights little. The Blades is one size and weighs a lot. The Vortex comes in 9 feet, 41 feet, and house top, which you put on your roof! All of these sizes weigh very little. People don't want windmills to be big and heavy because they are an eyesore. The Vortex is not heavy and big so these people will be happier.

One last reason they're different is the Vortex doesn't make noise, and the Blades make a lot of noise. Cows, for example, don't like to graze in noise. So therefore, animals will not want to graze there and farmers will not want windmills to be near their farms. Also, people do not like to live near noise. The Vortex makes no noise. So unlike the Blades, animals will want to graze there and the people will want to live there.

So as you can see the Vortex and the Blades windmills have a lot of differences. The Vortex doesn't kill birds, it comes in many sizes, and it is silent compared to the Blades. These windmills also have some similarities too, for example, they are both renewable sources of energy. It is important that we keep finding new renewable sources of energy to make our planet a better place. So I hope you learned many new things about the Vortex and the Blades windmills!

Sensored Wind Farms vs. Wind Farms

By Sarah Gubing #9

Do you want to learn about wind farms andensored wind farms? If you do you better keep reading! I am doing a paragraph about howensored wind farms compared to normal wind farms. Have you ever heard of wind farms? Are you for or against wind farms? I am for both. That means I think wind Farms are bad and good. They are good because they help make eleicrtricity. They are bad because they pollute the great lakes.

Sensored wind farms are good for birds and other flying animals. That's why Emily lovesensored wind farms so much. They save so many birds and other animals. Do you thinkensored wind farms are a good thing? I thinkensored wind farms are a good thing! Sensored wind farms do not have blades. When I say they have blades I don't mean blades of grass . I mean the blades on a fan . There are like 100x bigger than that.

This is what a bladeless wind turbine looks like.

Normal wind farms are a bad thing in my opinion. What do you think are bad or good? If you already know what you think? I know a couple things about wind farms and how they are bad. One bad thing if wind farms go into great lakes we will have a lot of renewable energy and people will take revenge for that. Number two when people take advantage of the renewable energy they will take all the energy from themselves so the worker will just keep replacing the wind farms every ten years.

I think Sensored wind farms are better but I hope I didn't lead you to one side. They both are bad and good. Everyone has their opinion. They are the same because they are both wind mills (wind turbines). I think censored wind farms are better for the birds or other flying animals. We all have our own opinions. If you think normal wind farms are better than think what you think. It's great to have different opinions. Serorily think what you want to think. Whatever you think is better.

I hope you liked to read this essay! I wonder what your favorite part was? Do you likeensored wind farms or normal wind farms? I hope I didn't lead you to one of the sides. If I did pick the side you like not because I gave you some reason they are bad for the environment. Go look up some things about how they are good! Then decide which one you think is better. If you think normal wind farms are better than picking that one. Hey, maybe you could write a letter to your mayor and have him/her decide. Whatever you think is better. What was your favorite paraghargh? Did you like the third one? That was my favorite one. I hope you like this article. Thank you for listening!

The Problems That People Have With Wind Farms

Essay By: Emily Eberhardt

Many people don't want wind farms because they kill birds. Other people say they are an eyesore or too noisy. I am going to tell you how to solve that problem: The Vortex. This problem needs solving because we are polluting the earth by using coal and oil as energy. Earth is the only planet we can live on, so we have to take care of it. By using wind as energy we can stop polluting the earth.

The solution is the **Vortex**. The Vortex is just a vibrating stick windmill. It has no blades. The birds just think it is a tree swaying in the wind, so they avoid them. So the birds will not get killed and the people will now want wind farms because they now know the birds won't be harmed. Sensored windmills solve this problem too, but I feel the vortex is better for other reasons as well.

The vortex is better because they don't kill birds and also because they are not noisy. Many people don't want wind farms because they are really noisy, but the vortex makes no noise. Animals, such as cows, also are not happy about the noise. Animals don't want to graze there if there is noise, so the vortex is the solution to that too. It would allow windmills to be but in farms with disrupting the animals. So there's another reason for the vortex.

Another reason people don't want wind farms is because they are an eyesore. People say they look bad. So a solution to that is... **Paint them!!!** If you paint them, people will want to see them because they are beautiful, not an eyesore. You can also paint them like trees or bright and attractive colors. So now there's yet another reason for wind farms.

So now I hope you see that there is no problem with wind farms all because of the amazing VORTEX. It does not kill birds, make noise, or look bad! This is a better solution to the problems traditional windmills cause. I hope you are more interested in wind farms and want to learn more about them. I bet now you want to have wind farms or more, where you live! Whether it's in Europe or Grand Rapids, please think about the Vortex wind farm.

If we put wind farms in the Great Lakes

By Sarah Gubing

If we put a windmill in the Great Lakes we would get a lot of energy. Then people would want more and more energy. So, workers would be putting more and more windmills in the Great Lakes. So many they would turn into wind farms. Thousands and and to usd of windmills would be in the GReat Lakes. It all started just from that one windmill and the person who had that idea thought they were an awesome person because they have so much money because they started with that one windmill. Every time we put a windmill in a Great Lake we are pollinating it just a little bit more. There are some people who think that putting ten wind farms won't pollute it that much but it will. If we put anything in the Great Lake besides water and sand it's polluting it.

We have a problem. That problem is we are about to put wind farms in the Great Lakes. It doesn't seem like a lot but it is. There are three reasons why that is a problem. #1 Some people do not think they look pretty and will move away because they want just a plain old lake like they used to have. #2 They can hurt flying animals like birds. Nobody wants to see animals that are dead in the lake. #3 They pollute the Great Lakes just like if you put trash in the lake you are doing the exact thing with a windmill in my opinion. There must be a solution somewhere out there. I am going to find it by doing research.

Okay I did some research and found a solution. It's called vortex bladeless. Vortex bladeless will help because they won't be in the way when you are trying to look at a sunset. which is good because the normal windmill you would see them. It uses a vibrating generator which will not pollute the lakes as much. That's cool because we never want to pollute the world. It has no blades, so it will not hurt any animals when they are trying to fly or swim or walk in the water. It's awesome because nobody wants to see a dead or hurt animal or bird. This is a great solution to solve the problem of wind farms going into the Great Lakes.

Thank you for reading my essay! The problem was that wind farms were going to go in the Great Lakes. The solution was that we can use Vortex bladeless because it is better for the environment and it does not pollute as much. They will look different so people will have different tastes. They are bladeless so they won't kill or hurt animals. We also talked about how people can get greedy and make workers put a lot of energy in the Great Lakes so they can have more energy. I am so glad I got to share my information with you. I hope you liked my essay.

WHAT WOULD HAPPEN IF WE PUT WIND TURBINES IN THE GREAT LAKES

By Sarah Gubing #9

What would happen if we put wind farms in the Great Lakes? First of all it depends on what type of windmill you put in the Great Lake for instes what if you put a windmill in Lake Erie. If you put a sensored windmill in Lake Erie then the windmill would not hurt the seagulls that fly by since sensored windmill don't the blades. If you put a normal windmill in Lake Erie it may hurt some animals because the windmill has blades unlike the sensored one. So, it means there is a bigger chance to kill an animal like a bird. Nobody wants to kill animals right?

If you put a windmill in a Great Lake then it will hurt animals and no one wants to hurt animals. Imagine you were a bird you smoothly through the air like normal but one day you start to see this thing. It's all white and looks like a big pole. And then the next day you see it grow bigger and bigger and bigger. Now, the workers are putting blades on it at your level. They work on it for days and days and days. Right now, they are working on that thing below in the water. You can see like they are putting something in the back. The next day the blades start to spin. You try to stay away from it. Later on that day you go straight into the thing and BOOM! You just got hit by the blade. It was very sharp. The thing cut your wing off. Now that you heard the story do you really want to put normal windmills in your lake?

A sensored windmill will not do any harm to a bird or any animal because that type of windmill has no blades. Now here the story again. Imagine you are a bird and is just slowly flying through the sky. Then the worker starts building something and you don't know what it is. It looks like a white pole. They start building up and up and up. For Days and days and days till they are at your eye level. The next day they are putting something in the white pole. It sort of looks like a minor. Then they put stuff in the bottom of the white pole. Later that day the thing starts blinking with a red light. At first you stay away from it but then you try to fly over it. You look down at your belly and see a red light when you fly across. Wow this is fun you say. Now think of how harmful a windmill is compared to a sensored one there is a big difference. Please use a sensored windmill if you want to put a windmill in your lake.

Now that I have shown both sides of a windmill and my opinion you have to choose what you think is better. What I did was show good things and bad things about different types of windmills. If you want to find out more go changelle yourself and look up " wind farms going in the great lakes." Then decide what you think is better. Sometimes people write to munch about one side and leave the other one with not so much. I hope I didn't lean you to one side of the argument. All I wanted to do was to inform you with both sides of the argument. Not just one. I hope that's what you think I did. Thank you for reading my essay. I hope you liked it

OIL AND WIND FARMS

Emily Eberhardt

Wind farms saves 80% of the oil on the earth.

Oil is not good for earth, it pollutes the environment.

Wind farms do not pollute earth and they use little oil.

People do not want to pollute earth so they can use wind farms.

People should use the Vortex if they want to go even farther into wind technology.

The Vortex is a straight stick that vibrates so it does not use oil or pollute earth.

The Vortex does not harm birds like traditional wind turbines can.

The Vortex can be painted like a tree.

Wind Farms are a renewable, sustainable, and alternative source of energy

I encourage you to research wind farms more!

All About the Author

Emily Eberhardt

Emily loves animals and the environment. She is always trying to make the world a better place. She lives in Northville Michigan. Emily loves horseback riding. She is in 3rd grade ALPS at Amerman in Mrs. Parnins class.



Here is a picture of Emily Horseback Riding

Sarah Gubing

Sarah Gubing is a gymnast. She loves cheer too .She is nine years old . Sarah has to sister (Addison and Meghan) She love the Earth and wants to make it a better place. She is in 3rd grade ALPS. She is also in Mrs. Parnin class.



Here is a picture of Sarah

[Offshore Wind Energy in the Great Lakes: Icebreaker Wind Power Project](#)

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[Winds of Change](#)

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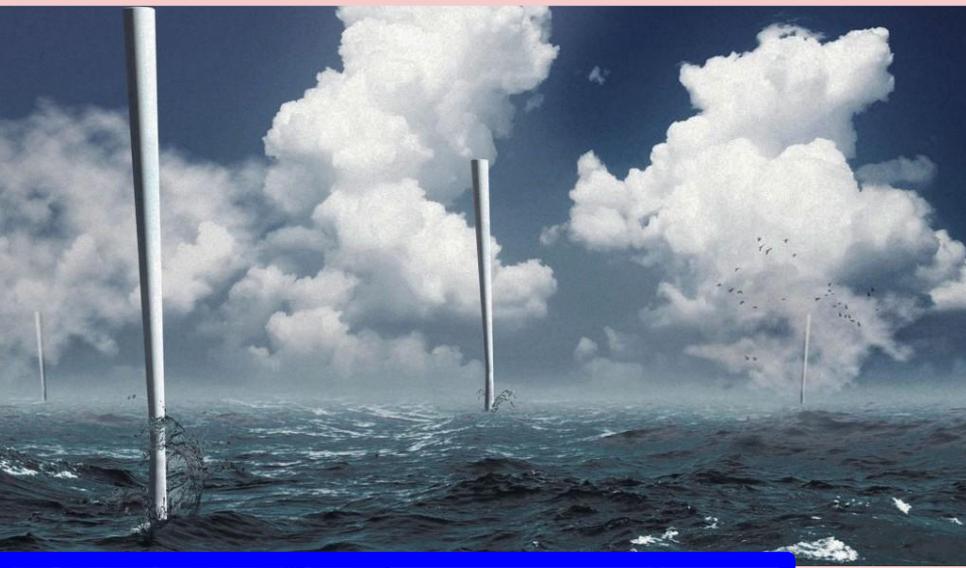
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Sarah Gubing



Weight

80% LESS

than conventional wind turbines

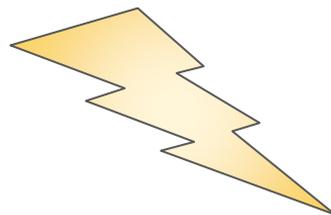
Maintenance
We don't need

Oil
Because we don't have any gears or moving parts in contact

Foundation
Because Vortex has the center of gravity at the bottom

We reduce the foundation
By over **50%**
VORTEX

The infographic features a scale icon for weight, an oil drop and gears icon for maintenance, and a cloud icon for foundation. It compares a conventional wind turbine with a Vortex turbine, highlighting the latter's lighter weight, lack of need for oil, and smaller foundation.



14.





Here is a mini version of a windmill turning on a light bulb.