

Edenwald School on the Mount Pleasant Cottage School Campus (Level II)

2010 New York State Virtual Wind Farm
Contest School Submissions

Outreach Part A: As part of an outreach follow up, our class will be sending the following letter to the governor urging him to consider alternate energy sources such as wind power.

March 1, 2010

David A. Paterson
State Capitol
Albany, New York 12224

Dear Sir,

We are writing to urge you to consider alternate forms of energy to power New York State. Our class has been researching global warming. We have also been learning about using wind energy as an alternative to burning fossil fuels. We believe that utilizing wind energy is a smart move for our state.

Global warming is being caused by the enhanced greenhouse effect. The earth is getting hotter and organisms are having difficulty surviving the changes in their environments.

Global warming is defined as the increase in average temperature of earth's surface. There has been an increase of 1_ F over the past 100 years.

The greenhouse effect is the term used when heat from the sun stays in the earth's atmosphere. This is good because it allows organisms to live and grow. The greenhouse effect is caused by gases in the atmosphere.

The enhanced greenhouse effect causes too much heat to be trapped in the earth's atmosphere. When we burn fossil fuels such as coal, oil, and natural gas we are releasing too many greenhouse gases into the atmosphere. These gases pollute the air, creating a blanket that holds in excessive heat. This is caused by man made activities.

In order to stop contributing to global warming we must stop burning fossil fuels. We can recycle and use alternative energy like windmills, solar panels, and hydroelectricity.

There are many benefits of utilizing wind energy. One benefit of utilizing wind energy is that it does not pollute the air. Also, wind energy doesn't let off greenhouse gases. Additionally wind farms can provide electricity for many homes, year after year. While there are some limitations with wind energy, we believe wind energy can help reduce global warming and save the earth.

Sincerely,

Edenwald Class 154
Ms. Harris
Ms. Fernandez
Kia
Jesse
Jasmine
Travis
Keith
Chaqui
Saisaiah

Outreach Part B:

Additionally, we will be presenting our science fair submission on March 17, 2010. Our submission is called Unleash the Power of a Pinwheel! The objective of this project is to determine how much power a pinwheel generates at different orientations to a wind source. We hope that this project will expose the students, staff, and parents of our school community to the potential of wind energy as a green energy alternative.

The project idea came from the following web address:

http://www.sciencebuddies.org/science-fair-projects/project_ideas/Energy_p025.shtml

Synopsis:**What physical, environmental, and human factors led you to select the location you used?**

S1: I chose to put my wind turbine in water and on land because the temperature changes by water and you get more wind. I also chose to put some on land because homes, emergency telephones, and the lights on the highway would be able to get some of the electricity.

What factors led you to select the turbine type, blade diameter, and tower height?

S1: I used different sizes because I wanted to get a lot of energy.

What makes your design more efficient than other options?

S1: What makes my design more efficient than other options is that I spread out my wind turbines so they can get more wind.

What physical, environmental, and human factors led you to select the location you used?

S2: I chose to put my wind turbine in the water because in the water the wind is stronger and the turbine can make more energy.

What factors led you to select the turbine type, blade diameter, and tower height?

S2: I chose to use big turbines because they make more energy power.

What makes your design more efficient than other options?

S2: I think my design will be more efficient than other options because I think the turbine in the water will generate more energy.

What makes your design more efficient than other options?

S3: I chose my locations to be spread out so energy could be on both sides of the river.

What factors led you to select the turbine type, blade diameter, and tower height?

S3: I put small turbines on the smaller areas and the larger turbines in larger areas.

What makes your design more efficient than other options?

S3: I chose to separate the wind turbines because if they are bunched up together their parts may interfere with each other.

What makes your design more efficient than other options?

S4: I put the turbines on the land and the grass because I thought it would make more electricity.

What factors led you to select the turbine type, blade diameter, and tower height?

S4: I thought that if I used different sizes I would be able to generate more energy.

What makes your design more efficient than other options?

S4: I think my design is more efficient than others because it will make more energy

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Welcome Eden25

Wind Farm Energy Summary

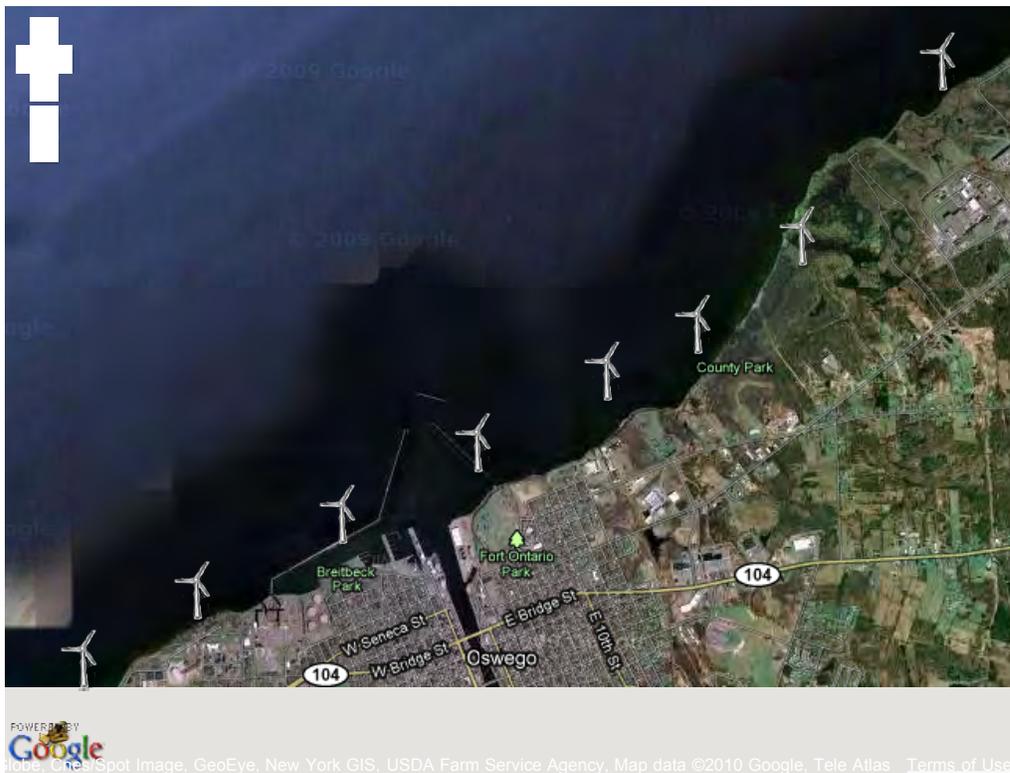
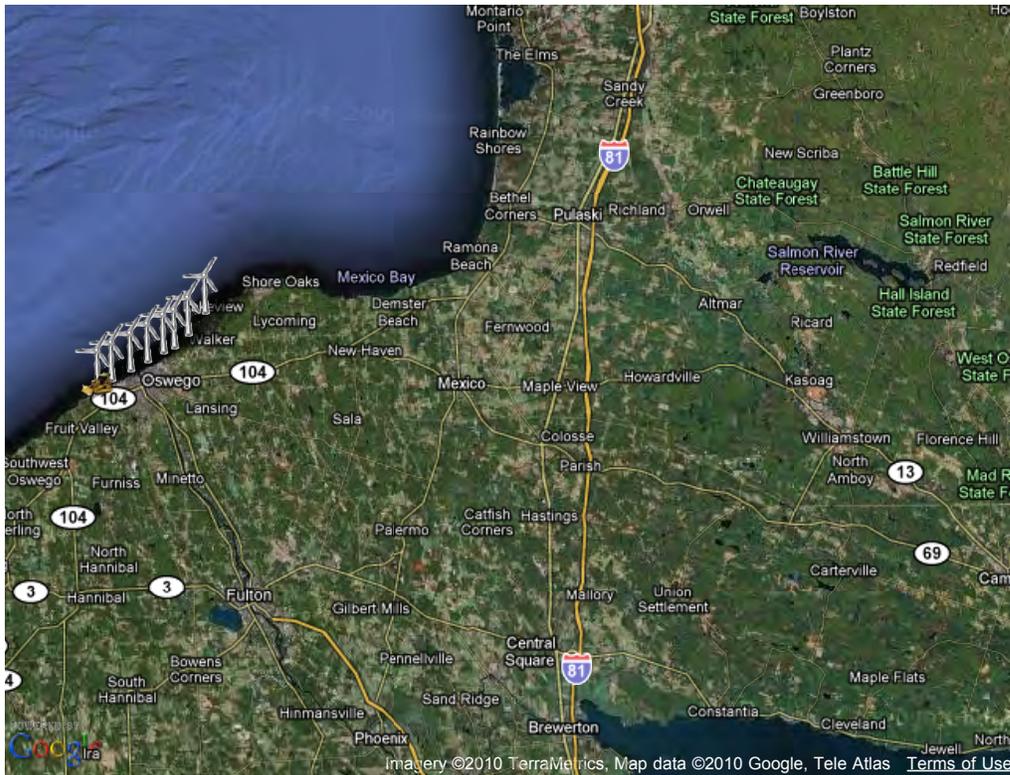
Number of Turbines	8
Wind Farm Area (km2)	3.39
Power Capacity (MWh)	24.00
Energy Output Yearly (kWh/yr)	70,763,022

Wind Farm Emission Offsets

Sulfur Dioxide	
Kilograms per Year	59,893
Nitrogen Dioxide	
Kilograms per Year	29,310
Carbon Dioxide	
Kilograms per Year	25,836,563
Equivalent number of Cars Removed	4,697
Equivalent number of Trees Planted	4,381,529

Wind Farm Cost Summary

Turbines & Towers	\$32,148,000
Installation	\$3,312,000
Transmission Lines	\$6,136,619
Service Roads	\$600,911
Total	\$42,197,530
Cost To Energy Ratio (\$/kWh)	0.60



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