Secretary of the Future

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Question

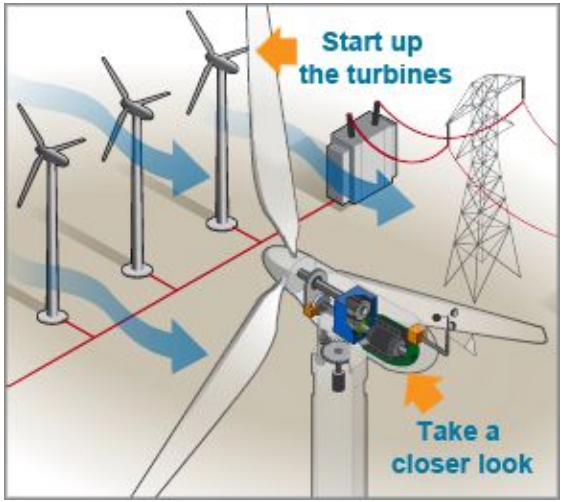
How do our current actions change the future of our environment? How does our new policy affect the environment?

Idea On What To Build

Our group wants to build wind turbines on an 11 acre piece of land that will create more energy for our community and also cut down on fossil fuels.

How They Work

- Wind turbines operate on a simple principle
- wind turns two or three propeller-like blades around a rotor
- The rotor spins a generator to create electricity



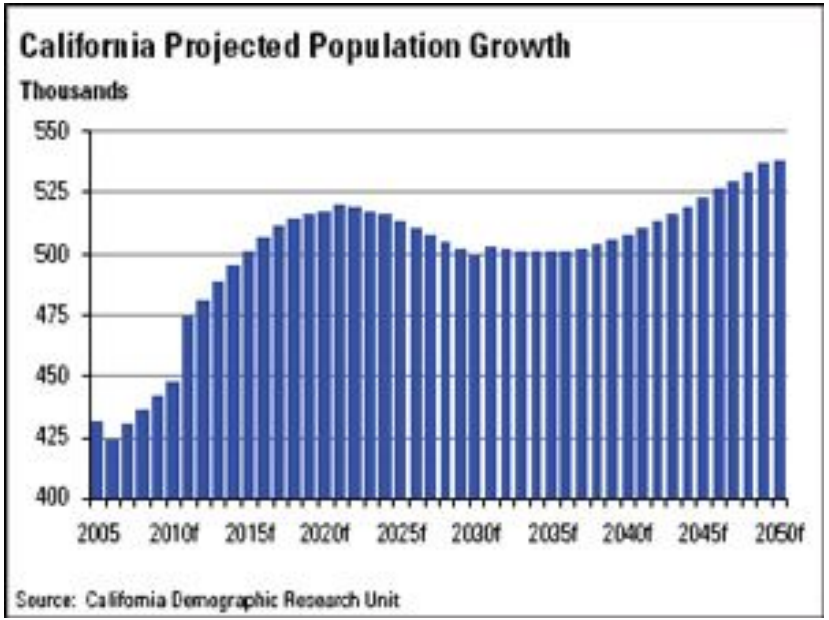
Wind

- Wind is a form of solar energy
- result of
  - uneven heating of the atmosphere by the sun
  - Irregularities of the earth's surface
  - Rotation of the earth

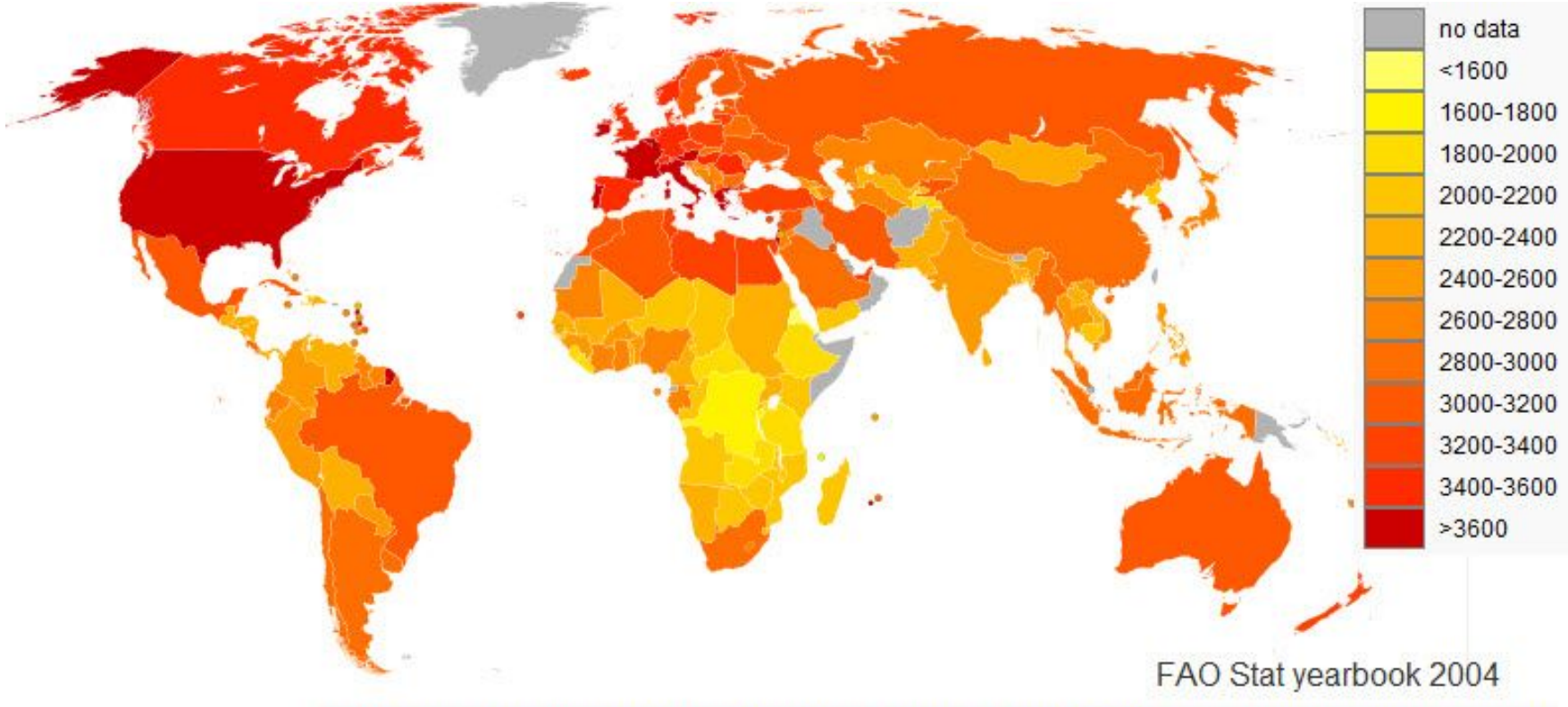
Need for Other Energy Source

- California’s increase in population
- If we rely on Fossil fuels the pollution

will be immense



Pollution Rate



What It Will Help

- Cut down on pollution
- Will end up helping the climate in our area
- Cleaner skies

Location

- 805 Atherton Avenue, Novato Ca 94945
- 11.23 acres of land
- Cost $2,450,000

Cost

- $522,000 for each wind turbine
- $2.45 million for 805 Atherton Ave
- Total cost would be around $3,494,00 million

Company

- Blattner Energy:
  - install the two wind turbines
  - Pre-Construction Surveys
  - Material Procurement and Transportation
  - Construction

Maintenance

- Last about 20-25 years, with little maintenance
- some replacements but shouldn’t need big parts
- first wind turbine was the Vestas 30 KW machine, built in 1980
    - still works today

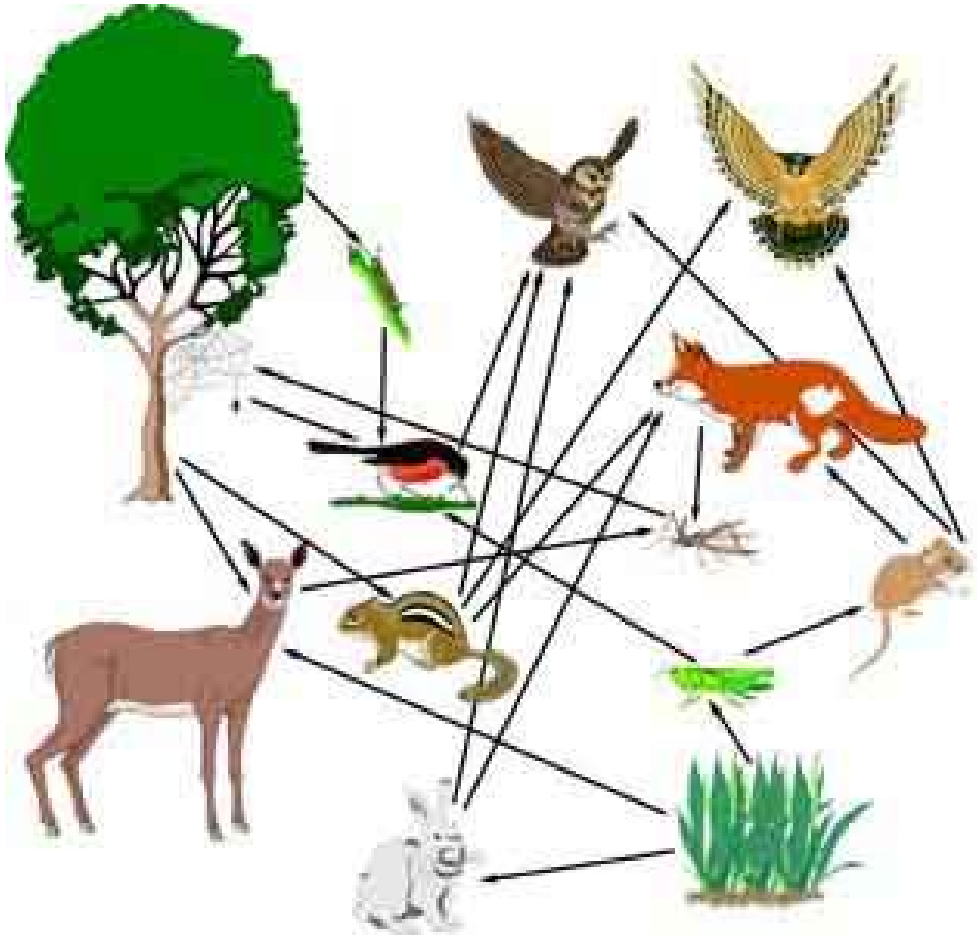
Energy Production

- 2MW can produce 2 million watts of energy
- Average home uses 3,000-5,000 watts
- This can energize about 1300 houses

Biodiversity

There are a large number of mammals such as deer, gophers, squirrels and coyotes/foxes. There are also Crows, Owls, Woodpeckers, Hawks, and Turkey Vultures. There are also some reptiles such as Lizards and Snakes. Some insects are grasshoppers, spiders, and mosquitos. Also many trees.

Foodweb



50 Years - Wind Turbines

Climate - Increased by 1-2 Degrees Celsius

Ground Condition - Slightly Dryer

Abiotic Factors - Wind Turbines in place with some ground erosion

Carrying Capacity - Fewer Animals

Matter of Cycling - Less greenhouse gasses

Species Behaviors - Scared of humans, look for new home

Population of Animals- Less

100 Years - Wind Turbines

Climate - Increased by 1-2 Degrees Celsius

Ground Condition - Dryer, less plants as foot traffic increases

Abiotic Factors - Wind Turbines, dryer soil, maybe cement

Carrying Capacity - very low

Matter of Cycling - less greenhouse gases

Species Behaviors - Scared of humans, look for new home

Population - Very low

300 Years - Wind Turbines

Climate - Increased by 3-4 Degrees Celsius

Ground Condition - Dryer, less plants as foot traffic increases

Abiotic Factors - Wind Turbines, dryer soil, maybe cement

Carrying Capacity - Very low

Matter of Cycling - less greenhouse gases

Species Behaviors - Scared of humans, look for new home

Population - Very low

1000 Years - Wind Turbines

Climate- Increased by 6-7 Degrees Celsius

Ground Condition - Dryer, less plants as foot traffic increases

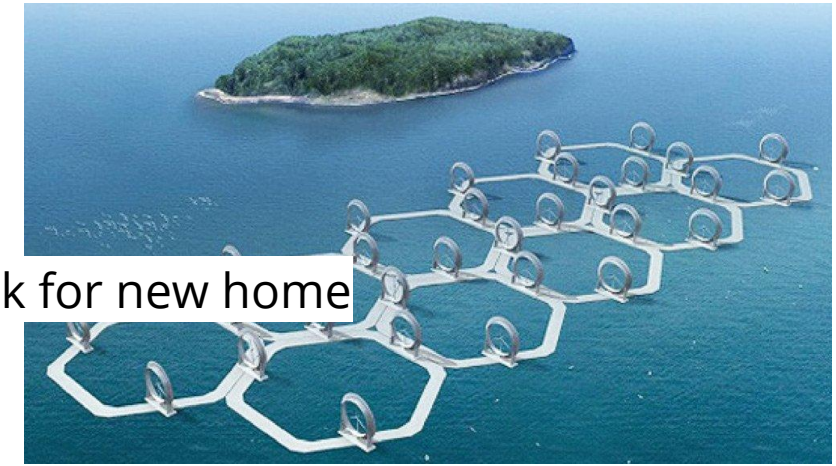
Abiotic Factors - Wind Turbines, dryer soil, maybe cement

Carrying Capacity - Extremely low

Matter of Cycling - less greenhouse gases

Species Behaviors - Scared of humans, look for new home

Population - Little to none



50 Years - Without Wind Turbines

Climate- Increase by 2-3 degrees celsius

Ground Condition - dryer because of higher climates

Abiotic Factors - dry soil (not ideal)

Carrying Capacity - high

Matter of Cycling - more greenhouse gasses

Species Behavior - stays the same

Population of Animals- an abundant amount

100 Years- Without Wind Turbines

Climate- Increase by 2-3 degrees celsius

Ground Condition - dry

Abiotic Factors - dry soil (not good for plants)

Carrying Capacity - high

Matter of Cycling - greenhouse gasses growing

Species Behavior - stays the same

Population of animals - growing steadily

300 Years- Without Wind Turbines

Climate- Increase by 4-5 degrees celsius

Ground Condition - slowly getting dryer

Abiotic Factors - bad soil (not helpful)

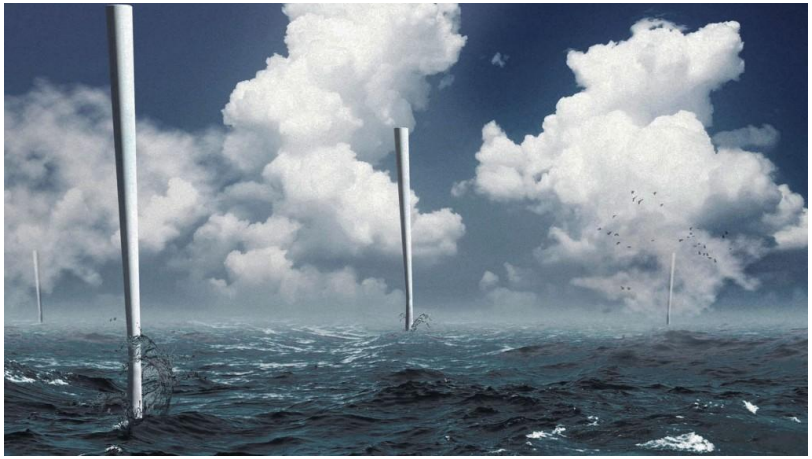
Carrying Capacity - very high

Matter of Cycling - greenhouse gasses

Species Behavior - stays the same

Population of Animals- high and growing

1000 Years- Without Wind Turbines



Climate- Increase by 7-8 degrees celsius

Ground Condition - super dry

Abiotic Factors - dry cracked soil (not ideal)

Carrying Capacity - high

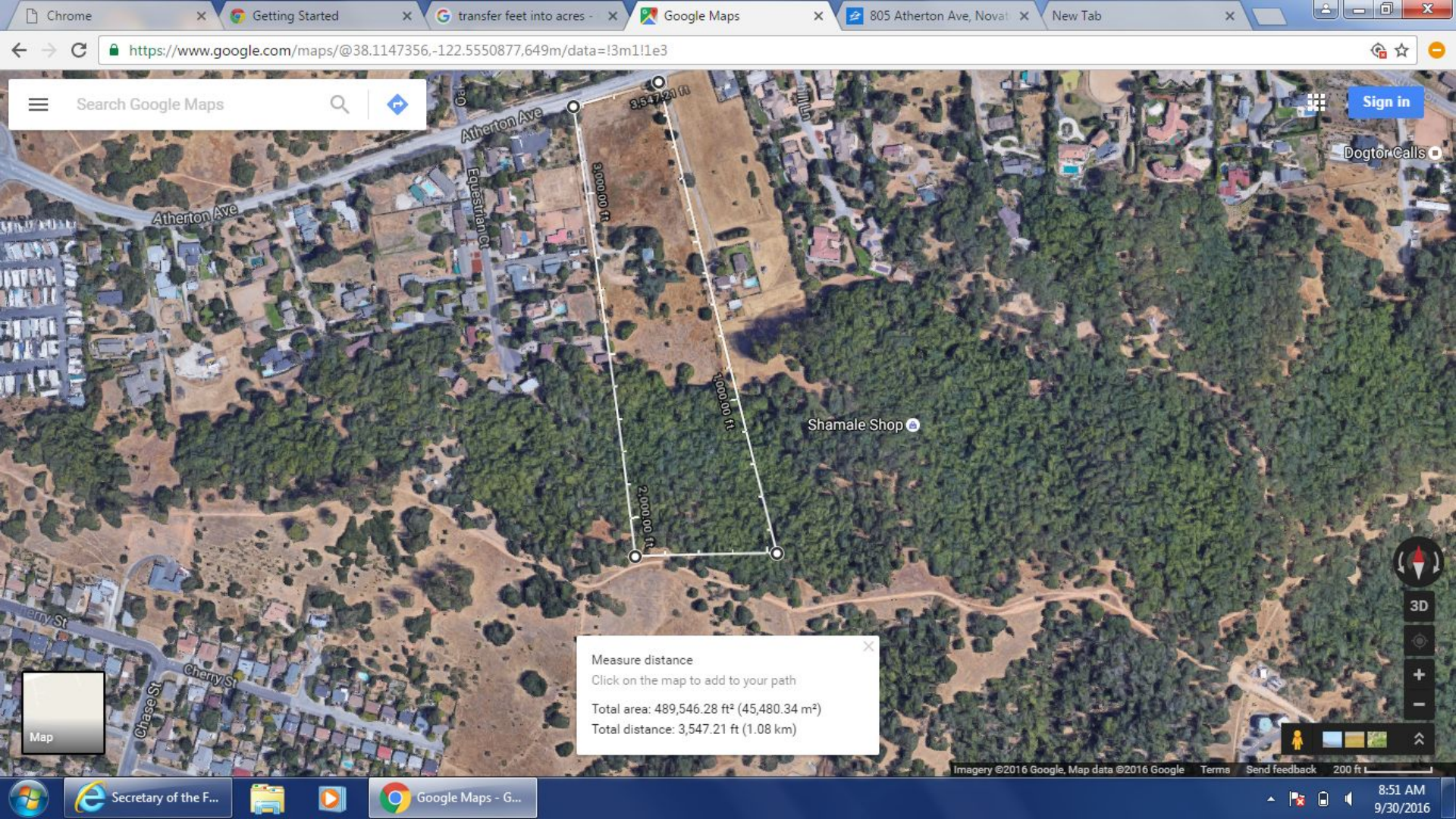
Matter of Cycling - growing greenhouse gasses

Species Behavior - stays the same

Population of animals - very high and still growing

Effects on the World

- May affect the bird population
- Lower pollution rate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Getting Started
transfer feet into acres -
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Cherry St
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Map
3D
Measure distance
Click on the map to add to your path
Total area: 489,546.28 ft² (45,480.34 m²)
Total distance: 3,547.21 ft (1.08 km)
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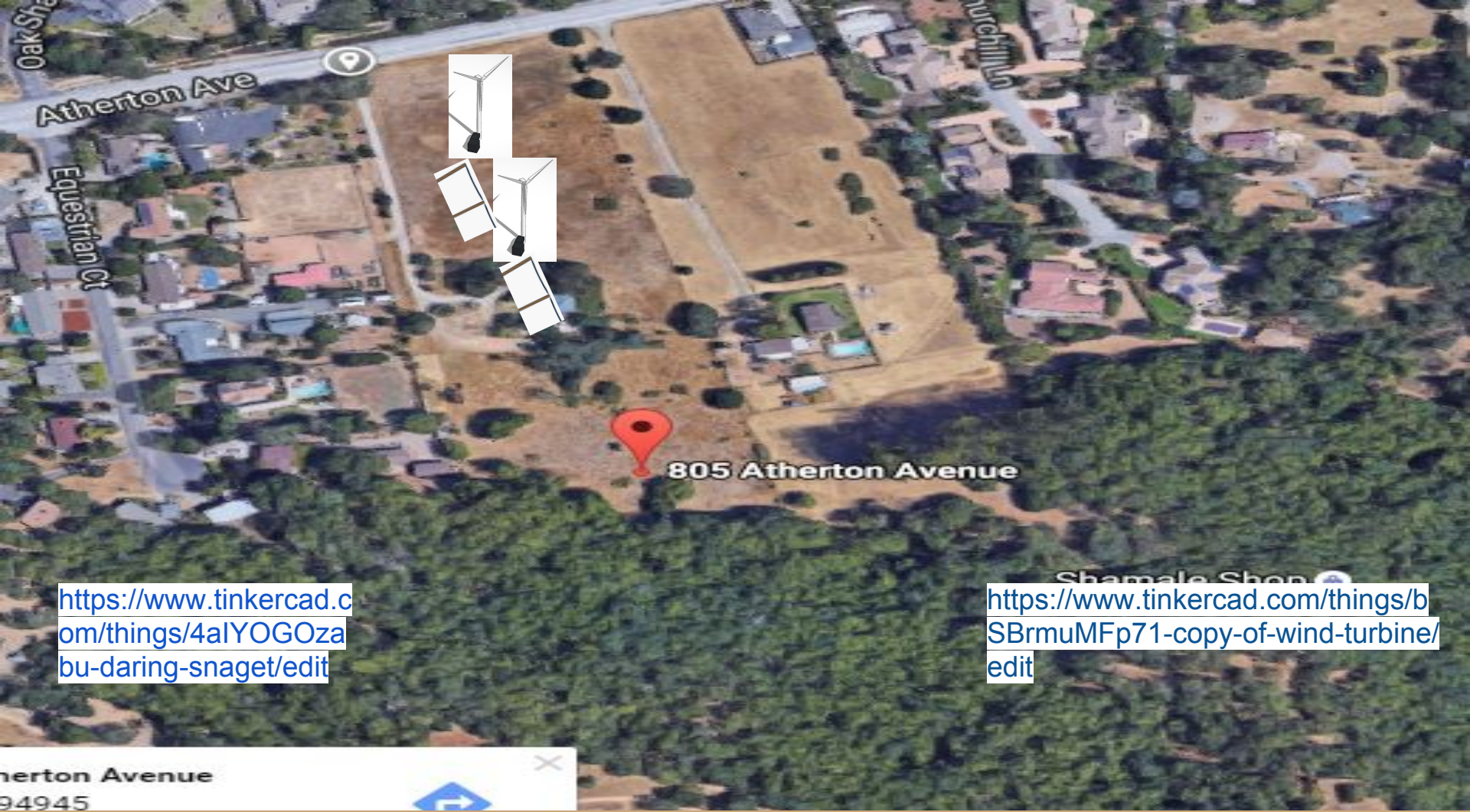
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https://www.tinkercad.com/things/bSBrmuMFp71-copy-of-wind-turbine/edit
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94945

Scale Model

2 cm=20 feet

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Citations

https://www.google.com/maps

http://www.blattnerenergy.com/

Special thanks to Frank for talking to us on the phone

https://images.google.com/

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http://www.realtor.com/