Turbines placed on rooftops can take advantage of the increased wind speeds that occur as altitude increases. Data collected from the New York State Wind Resource Explorer will be normalized and compared to data collected by anemometers to calculate the wind speed at certain heights on campus.

Small vertical axis turbines positioned between buildings take advantage of the increased wind speeds caused by wind funneling. Data suitable for examining wind funneling on campus are not readily available. Data will thus be directly collected using anemometers.

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- In accordance with the President’s Climate Commitment, decrease UB’s carbon footprint
- Create an on-campus sustainable energy source
- Inspire the increased use of wind power
- Explore new methods to harness wind power in campus or city environments.
- Reduce cost of electricity for the University at Buffalo
- Incorporate wind turbines that do not detract from aesthetics of campus

### Objective

**Wind Power on Campus**

**Case One: Rooftop Turbine**

Turbines placed on rooftops can take advantage of the increased wind speeds that occur as altitude increases.

**Methods**

Data collected from the New York State Wind Resource Explorer will be normalized and compared to data collected by anemometers to calculate the wind speed at certain heights on campus.

**Data Collection**

**Findings:**

- Low speed “Roof top turbines” could be supported at UB

**Case Two: Wind Funneling**

Small vertical axis turbines positioned between buildings take advantage of the increased wind speeds caused by wind funneling.

**Methods**

Data suitable for examining wind funneling on campus are not readily available. Data will thus be directly collected using anemometers.

**Findings:**

- The new Engineering Building scheduled for 2011 completion will incorporate “Roof top turbines” in its design

**Turbine Design**

- Versatile - can be set up on a horizontal or vertical axis to best fit its surroundings
- Inexpensive - built on a budget under $500

**Closing Statement**

- It is hoped that the findings of this project will be used in similar settings in other university campuses and cities.
- The core belief of this project is that every little bit helps and that any positive offset of carbon emissions or reduction in electricity cost is a step in the right direction and will have a greater effect when combined with other sustainable energy production methods.

**Resources:**


Chairperson, WNY Wind Action Group, Engineering Committee.

NOAA - National Oceanic and Atmospheric Administration.
United States Department of Commerce. 3 Mar. 2008


