



Town of Brighton

MONROE COUNTY, NEW YORK

SUSTAINABILITY OVERSIGHT COMMITTEE, SOC

2300 ELMWOOD AVE. * ROCHESTER, NEW YORK 14618 * PHONE (585) 784-5250 * FAX (585) 784-5368

Sustainability Oversight Committee 2013 Year-End Report

The Sustainability Oversight Committee (SOC) Policy states, "The Committee shall prepare and submit an annual written report to the Town Board for review during April of each year concerning the activities and work of the Committee. The following document constitutes this annual report which describes the activities undertaken by the committee and the actions that resulted from these activities.

1. Monthly Meetings

The SOC met monthly excluding the months of August and December in 2013. A copy of the minutes for each meeting is attached as part of this Year End Report.

2. 2013 Initiatives

In January of 2013 the SOC drafted five initiatives to pursue during 2013. The initiatives were defined broadly, so that there is potential for a range of tasks within these areas of interest. A description of the Initiatives and the SOC's action to date toward pursuing these initiatives are listed below:

a. Sustainable Community Rating System

Description: Utilize the STAR Community Rating system framework to evaluate the Town's progress against standardized sustainability objectives and evaluation measures and facilitate the Town's future participation in the STAR program.

Action to date: The Sustainability Oversight Committee explored the use of the STAR Community Rating System (STAR) to chart a clear path to meaningful action in the Town's work and to help the Town of Brighton quantify its livability and sustainability achievements. In a letter, the SOC recommended that the Town view the upcoming Comprehensive Plan update process as an opportunity to produce a plan that provides an active roadmap to a sustainable Brighton. A copy of this letter is attached. STAR could provide beneficial guidance in the preparation of the Town's Comprehensive Plan update due to its organizational structure, streamlined data collection support and provision of "best practices" from communities around the country. The Town of Brighton could also consider subscribing to the STAR Community Rating System at the "Participating STAR Community" level or the "Reporting STAR Community" level and utilize the technical resources provided to STAR Communities to assist with the preparation of the Comprehensive Plan update.

b. Monitor Town Energy Consumption

Description: Establish an energy management plan that can assist the town government in improving its energy and financial performance while distinguishing the Town as an environmental leader. This plan will document the Town of Brighton's building and vehicle energy consumption and direct costs. This study intends to review historic, current and future energy consumption information and compare before and after scenarios to evaluate the energy savings associated with new programs and



improvements. For example in April 2010 the Town installed a building control system; the energy study will review the Town's energy consumption before and after the installation of this system and quantify the energy savings.

Action to date: The SOC identified and contacted a firm named Facility Dude that gathers energy data and provides software to analyze past and present energy use. The SOC participated in a webinar presented by Facility Dude and obtained pricing for the programs implementation. The first year cost is estimated to be \$3,000 with a cost of \$2,000 for each successive year. A copy of the price quote is attached. In addition, the SOC gathered a sampling of the Town's past energy invoices to begin the development of a database to analyze this data.

c. Prepare Quantitative Analysis of Capital Improvements

Description: Assist Town staff with the development of quantitative analyses to evaluate future green capital investments such as the leaf vacuum equipment. The analysis will review capital costs, energy savings, payback period, anticipated operation and maintenance costs and financial impacts associated with the environmental benefit of sustainable improvements.

Action to date: The SOC completed a timely review of the Town's capital improvement plan but little progress was made toward the development of quantitative analyses.

d. Waste Recycling

Description: Investigate opportunities to reduce waste and implement recycling programs within the Town of Brighton and on Town properties.

Action to date: The SOC strongly supports recycling in the Town Parks and in 2013 continued discussions with the Parks and Rec committee and staff to develop a reasonable recycling program. Additionally, the Sustainability Oversight Committee along with Matt Beeman from Parks Department met with Brenda Mickolichik of Waste Management to discuss recycling in the Town of Brighton. The issue of contamination of recyclable material was discussed and Ms. Mickolichik indicated that she would be happy to meet with a representative from the Parks Department to discuss solutions to the contamination/park recycling issue. The SOC will continue to develop solutions regarding recycling in Town Parks and on Town property.

The Parks Department has installed a recycling dumpster within Meridian Park. The recycling dumpster has been placed alongside a similar looking refuse dumpster. The Parks Department has contacted Waste Management to investigate a means to differentiate the dumpsters. Waste Management provided a stencil and some additional identification on the recycle dumpsters. However, Waste Management indicated that they do not provide a dissimilar recycling dumpster. In 2013 the Parks Department installed signs throughout the park and in the baseball dug outs encouraging recycling. Additionally, recycle totes were placed in the dugouts. The team coach was responsible to present the recycling tote to the players and collect all recyclable at the end of the game.

The Parks Department continues to observe the disposal of arbitrary refuse in the recycle dumpster and contamination of the recycle materials continues to be problematic.



The Town of Brighton intends to install recycling bins at the 12 Corners Town Park pending a resolution regarding the monitoring and collection of the waste material. The Town is exploring the participation of Brighton High School students to monitor and collect the recyclable materials.

In an effort to reduce the contamination of recycled materials, the Parks Department is investigating new recycling products that would clearly demonstrate that the totes are strictly intended for recycled material.

e. Water in the Environment

Description: The SOC will investigate opportunities to create cleaner water ways, including their adjacent buffer areas, and restore these natural corridors to a condition that supports the indigenous wildlife habitat such as trout and water fowl. This investigation will also identify and emphasize proper management techniques to avoid damage to these ecosystems and sustain their natural habitats. Our waterways are a critical resource and must not be used as "dumping canals" for untreated stormwater.

Action to date: The Town of Brighton obtained a GIGP grant to install green infrastructure along Monroe Ave. This infrastructure will treat the stormwater generated by the surrounding parking areas, sidewalks and Monroe Ave. A member of the SOC participates on the Monroe Ave. GIGP committee and provides insight regarding opportunities to create cleaner water ways.

3. Additional Activities

In addition to the five initiatives referenced above the SOC completed the activities described below:

a. Wind Energy Research

Description: Emily Krauss, SOC intern, completed an investigation of the resources for residential wind power generation in New York. The investigation included; an overview of the New York State and Federal incentive programs for residential wind technologies; review of the wind resources in New York State and the Rochester Area; review of the small NYSEDA certified wind turbines; review of horizontal and vertical axis turbines and a review of airborne wind turbines. A copy of the report is attached.

Action to date: The SOC reviewed the information contained in the report. This information will aid in the development of the Town of Brighton's final Wind Ordinance.

b. Capital Improvement Program

Description: The Policy for Sustainability Oversight Committee indicates that the Committee is required to review and comment upon the Town's Capital Improvement Program annually. The SOC is required to prepare and submit a written report to the Supervisor and Town Board. Such report shall evaluate the proposed projects and acquisitions in terms of the sustainability objectives of the Town, and shall make recommendations as to sustainable alternatives to be considered in the design and operation of the capital improvements.

Action to date: The SOC completed its review of the CIP in June 2013. A letter outlining the SOC's recommendations was submitted to the Town Supervisor in June 2013. A copy



of the letter is attached. Additionally, Erinn Ryan from the SOC attended the CIP/Budget meetings.

c. Monroe Avenue GIGP Project

Description: In order to advance the Monroe Avenue Vision Plan, the Town of Brighton with the assistance of the Monroe County Stormwater Coalition applied for a New York State Environmental Facilities Corporation Grant through the Green Innovation Grant Program, GIGP, to implement green sustainable practices along Monroe Avenue. The Town was successful and was awarded a GIGP grant in the amount of \$1,565,000 to install green infrastructure practices along Monroe Ave.

Action to date: A SOC member, Shubhangi Gandhi, has been appointed to the Monroe Avenue GIGP committee.

d. Incentive Zoning Amendment

Description: The SOC investigated reasonable sustainable amenities that the Town Board should consider in an Incentive Zoning application.

Action to date: The SOC developed a list of sustainable amenities that should be considered for inclusion into Chapter 209, Incentive Zoning of the Code of the Town of Brighton. The SOC prepared a letter to the Town Supervisor documenting these amenities and requesting that they be included in Chapter 209, Incentive Zoning Code. This letter was submitted to the Town Supervisor in February 2013. A copy of a draft letter is attached.

e. Faith Temple Property Update

Description: The 70 acre parcel currently owned by Faith Temple is no longer being considered for development. The Sustainability Oversight Committee suggested that the Town of Brighton investigate the purchase and preservation of the Faith Temple parcel. The parcel abuts the eastern boundary of the Town of Brighton's Buckland Park and consists primarily of open meadow. Incorporating this parcel into Buckland Park would be an outstanding opportunity to preserve a green habitat for wildlife and create a passive recreation area for Town residents.

Action to Date: The SOC prepared and submitted a letter dated May 2013 suggesting that the Town investigate the purchase of the Faith Temple property. A copy of the letter is attached.

f. Peter DeBaal

July 3rd was a sad day for the member of the SOC. Peter DeBaal a founding member of the committee unexpectedly passed away on July 3, 2013. Peter was an original member of the SOC who retired from the committee to serve on the Architectural Review Board in 2012. Peter will be missed.

g. Development Review, Winfield Park DEIS.

Description: The Sustainability Oversight Committee was requested to review the Draft Environmental Impact Statement documents for the Winfield Park Subdivision. The applicant is seeking an Incentive Zoning Application for the proposed development of



approximately 132.2 acres of mixed use development including residential, senior housing, office space and a community clubhouse on seven parcels of property located on Brighton-Henrietta Town Line Road.

Action to Date: The SOC prepared and submitted a four page comprehensive review letter regarding the Draft Environmental Impact Statement in September 2013. A copy of the letter is attached.

h. Town Board Meeting

Description: The SOC recognized that the Town Board membership has changed since the SOC was formed and requested an informal meeting with the Town Board to discuss their ideas regarding sustainable issues and the role of the SOC.

Action to date: An informal meeting was scheduled and held on January 22, 2014. At the meeting Council Person Christopher Werner was named as a liaison between the Town Board and the SOC. The CIP, Comprehensive Plan Update, Recycling, Active Transportation and upcoming development projects were discussed. A copy of the minutes from this meeting is attached.

Committee members:

Paul Tankel, Chair

Steve Kittelberger

Rochelle Bell

Ron Wexler, Vice Chair

Eric Williams

Shubhangi Gandhi

Erinn Ryen

Michael Guyon, Town Engineer



2013 Meeting Minutes



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Sustainability Oversight Committee

January 2, 2013

Meeting Minutes

Attendance: The meeting was held in the Stage Conference Room at the Brighton Town Hall and began at 7:05 PM.

Paul Tankel, Chairperson	present
Stephen Kittelberger	present
Erinn Ryen	present
Ronald Wexler	present
Shubhangi Gandhi	present
Michael Guyon, PE	present
Eric Mineker	present
Eric Williams	present
Bill Moehle	present

Minutes: The draft December 5th meeting minutes were approved without modifications.

Open Forum:

Old Business

A. CIP Discussion

The SOC members expressed their belief that the leaf vacuum was reasonable and presented clearly in the study. Supervisor Moehle is very appreciative of the SOC and thought the report was comprehensive. The Supervisor explained that the purchase of the leaf vacuum was delayed a year and not eliminated from the CIP. The leaf equipment is used seasonally whereas other critical equipment requested in the CIP can be used year round. The Town Board's decision to delay the purchase of the vacuum considered its seasonal use.

Supervisor Moehle indicated that the Town may consider a trial with new leaf equipment in 2014. This alternative was evaluated in the past and there was a concern regarding the collection of wet leaves. The Town may consider obtaining a bond for capital improvements because of the current attractive interest rates.

The CIP should be reviewed and sustainable items and/or those that affect the Town's carbon footprint should be evaluated in greater detail.



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B. Incentive Zoning

Brighton was one of the first Towns to take advantage of incentive zoning. The Town Board considers a balance of incentives and amenities. The incentives developed by the SOC should be broadened and resubmitted to the supervisor.

C. Stormwater/Monroe Ave Project

The Town Board formally announced the committee at the last board meeting. The committee will be meeting to review the consultant RFP and guide the GIGP project.

D. Recycling

Steve K. has been in touch with Waste Management and also staff from the high school. Mike G. will contact a representative from Waste Management and schedule a meeting to discuss recycling and potential obstacles to recycling.

E. Hybrid Vehicle Parking

Paul has explored this through local colleges. There are some difficulties determining what constitutes a hybrid or high efficiency vehicle. Enforcement is a concern. Paul suggested that the SOC not pursue this issue.

F. Development Updates

Development Updates were provided by Mike Guyon.

New Business:

- A. The proposed 2013 meeting schedule was reviewed and there were no objections to the proposed meeting dates.

The SOC will meet every first Wednesday of the month.

- B. Goals for 2013

The SOC would like to determine some definitive goals that could be measured at the end of the year. The goals should align with the CIP and STAR program. Mike G. will email a STAR PDF and members should begin brainstorming goals via email.



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Adjournment: Meeting was adjourned at 8:35 PM

Next Meeting:

The next meeting will be held on February 6th, 2013 in the Stage Conference Room at 7:00 PM to 8:30 pm at Town Hall.

Minutes submitted by: Eric Mineker



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Sustainability Oversight Committee

February 6, 2013

Meeting Minutes

Attendance: The meeting was held in the Stage Conference Room at the Brighton Town Hall and began at 7:05 PM.

Paul Tankel, Chairperson	present
Stephen Kittelberger	present
Erinn Ryen	present
Ronald Wexler	present
Shubhangi Gandhi	present
Michael Guyon, PE	present
Eric Mineker	present
Rochelle Bell	present
Eric Williams	absent

Minutes: The draft January 2nd meeting minutes were approved without modifications.

Open Forum:

Rochelle B. announced that Monroe County will be offering training sessions at MCC for water/hydrology, energy, and application process. She will email the official brochure to Mike G. who will distribute it to the committee.

The Finger Lakes Regional Sustainability Plan is being developed and will be presented to the Rochester public at an open forum on February 28th from 5-7pm at the Rochester Museum and Science center.

Mike G. and Todd Stevenson will be giving a presentation on Green Infrastructure, Buckland Creek and the Monroe Ave. green infrastructure project in the library on February 12 at 7:00 PM.

Old Business

A. SOC Annual Report Draft

The Annual report is not due until April; however, the committee feels it would be beneficial to submit it early. The report is in draft format and any edits should be submitted to Mike G or Paul T before the submission. Comments should be provided within the next two weeks.



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B. Goals for 2013

The SOC goals for 2013 were discussed at the previous Public Works meeting and were well received. Mike G will invite a representative of the finance department to speak to the SOC regarding the type of financial analysis that would assist in making budget decisions.

C. Wind Energy Presentation

Emily K gave a brief PowerPoint presentation outlining her research to date on wind energy and the practical applications in Brighton. Erinn R. asked if special zones be identified for noisy wind turbines. Emily K, Mike G, Ron W, and Steve K will meet next Thursday to develop final wind energy objectives.

D. Incentive Zoning

Mike G will submit the incentive zoning letter developed by the SOC to the Supervisor.

E. Stormwater/Monroe Ave. Project

The first meeting will be on the 14th to discuss the direction of the committee and to begin assembling an RFP for the design consultant.

F. Recycling

A meeting with Waste Management was held on February 6th with Brenda Mickolichik. Eric M will distribute the power point. Brenda demonstrated cost savings by recycling. Mike G will draft a letter to Park and Rec department requesting that they contact Waste Management and investigate the recycling in Meridian Park as a pilot project. The investigation should include a cost analysis.

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G. Development Updates

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Development updates were provided by Mike Guyon.

New Business:

Adjournment: Meeting was adjourned at 8:35 PM

Next Meeting:

The next meeting will be held on March 6th, 2013 in the Stage Conference Room at 7:00 PM to 8:30 pm at Town Hall.

Minutes submitted by: Eric Mineker



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Sustainability Oversight Committee

March 6, 2013

Meeting Minutes

Attendance: The meeting was held in the Stage Conference Room at the Brighton Town Hall and began at 7:05 PM.

Paul Tankel, Chairperson	present
Stephen Kittelberger	present
Erinn Ryen	absent
Ronald Wexler	present
Shubhangi Gandhi	present
Michael Guyon, PE	present
Eric Mineker	present
Rochelle Bell	present
Eric Williams	absent
Emily Kraus	present

Minutes: The draft February 6th meeting minutes were approved without modifications.

Open Forum:

The Town of Brighton will be receiving a proclamation for global earth hour. The supervisor would like the SOC to accept the proclamation.

Rochelle inquired whether abandoned and foreclosed properties should be considered in the SOC's scope. The subject will be incorporated into the parking lot listing to be visited at a later date.

Penfield has put installed an electric charging station and will be installing another. The first charging station was privately funded and the second will be constructed with a grant. Mike G. will provide information regarding the grant provider for the second charging station.

Mike G. submitted an application for a Bike Friendly Community designation.

The Genesee-Finger Lakes Active Transportation Summit will be held Tuesday, April 30th from 8am-5pm. Contact elizabethmurphy@flhsa.org for more information.



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Old Business

A. STAR Communities

Rochelle is serving on the STAR technical advisory group and currently getting input from pilot communities. A free self-assessment tool will become available in April. The assessment tool provided with the basic membership may be helpful for development of the comprehensive plan. Mike G. will investigate the availability of funds, \$250, that are necessary to use the assessment tool.

B. Town Energy Consumption

Mike G. identified some Town energy studies such as lighting and the boilers. The energy information is available back to 2007. Mike G will gather a sample of the data to help identify any information that could be useful to the SOC for analysis.

C. Capital Improvement Plan

Mike G. spoke with the budget director and CFO. They indicated that cost analysis and payback periods are useful tools to make determinations for capital improvements. When analyzing potential capital improvements, it is important to look at the effects on other existing equipment and operations to evaluate the broader impact. Mike G will send out a memo regarding additional considerations for the leaf study.

Mike G will send out the 2013 CIP that was prepared in 2012 for the group to identify some targets for analysis.

D. Stormwater – Emily K.

Shubhangi sent out a list of stormwater topics. The study should investigate the impact of increased storm intensities due to Climate Change and identify potential areas that will experience flooding and critical segments/structures of the stormwater conveyance system.. The study should identify zones prone to stormwater hazards, identify areas that impact the Towns stormwater, suggest revisions to the Town code to limit risks associated with the increased storm intensities.. Emily will meet with Mike G. and Shubhangi to determine the focus of the study and outline goals. The meeting is tentatively scheduled for March 18, 2013 at 10:00 AM

E. Monroe Ave. Stormwater Project

The RFP will go out late this week or early next week. There is a lot of interest in the work. The RFP will be shared with the SOC and will also be available on the website.



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F. Recycling

The SOC drafted a letter to the Parks and Rec. Mike G. will send the letter to the group and also additional contacts and the Parks and Rec.

G. Development Updates

Development updates were provided by Mike Guyon.

New Business:

Adjournment: Meeting was adjourned at 8:35 PM

Next Meeting:

The next meeting will be held on April 3rd, 2013 in the Stage Conference Room at 7:00 PM to 8:30 pm at Town Hall.

Minutes submitted by: Eric Mineker



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Sustainability Oversight Committee

April 3rd, 2013

Meeting Minutes

Attendance: The meeting was held in the Stage Conference Room at the Brighton Town Hall and began at 7:05 PM.

Paul Tankel, Chairperson	present
Stephen Kittelberger	absent
Erinn Ryen	present
Ronald Wexler	present
Shubhangi Gandhi	present
Michael Guyon, PE	absent
Eric Mineker	present
Rochelle Bell	absent
Eric Williams	absent
Emily Kraus	present

Minutes: The draft March 6th meeting minutes were approved without modifications.

Open Forum:

Eric Mineker announced his resignation at the Town of Brighton. Eric's participation will be missed.

The Genesee-Finger Lakes Active Transportation Summit will be held Tuesday, April 30th from 8am-5pm. Contact elizabethmurphy@flhsa.org for more information.

Old Business

A. STAR Communities

Rochelle is serving on the STAR technical advisory group and currently getting input from pilot communities. Rochelle will be able to share more information as the program develops.

B. Town Energy Consumption

Mike G provided billing and usage statistics for electricity and gas at the Town. The committee discussed converting the information into a spreadsheet to make the information more usable. Erinn could contact the school to see if high school students would be interested in doing some data processing with the large amount of information. The committee could calculate energy usage and compare this information with daily temperatures to identify trends.



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C. Capital Improvement Plan

The committee would like to target vehicles for analysis. The SOC must have specifics about vehicle make and type in the CIP to make accurate analyses to consider sustainable alternatives.

D. Stormwater – Emily K.

Emily distributed a stormwater agenda for her last project. The goal is to map Allens and Red creek watersheds in GIS and identify areas of floodplains vulnerable to stronger storms using online software.

Emily tabulated her research of wind turbines. The table compares different models of wind turbines and includes a rating for each model. Emily will send a PDF of this table to the group.

E. Monroe Ave. Stormwater Project

The RFP is due on April 15th. There seems to be a lot of interest. Once proposals come back there will be a significant review period based on the number of proposals. If permeable pavers are included in a proposal, the SOC could explore the dual use of a leaf vacuum truck to clean the pavers.

F. Recycling

The SOC drafted a letter to the Parks and Rec. The SOC will send the letter after an appropriate contact is established.

G. Development Updates

Faith Village will not be going forward with plans. The SOC could identify some sustainable uses for the vacant land.

New Business:

Adjournment: Meeting was adjourned at 8:35 PM

Next Meeting:

The next meeting will be held on May 1st, 2013 in the Stage Conference Room at 7:00 PM to 8:30 pm at Town Hall.

Minutes submitted by: Eric Mineker



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Sustainability Oversight Committee

May 1st, 2013

Meeting Minutes

Attendance: The meeting was held in the Stage Conference Room at the Brighton Town Hall and began at 7:05 PM.

Paul Tankel, Chairperson	present
Stephen Kittelberger	present
Erinn Ryen	absent
Ronald Wexler	present
Shubhangi Gandhi	present
Michael Guyon, PE	present
Rochelle Bell	absent
Eric Williams	absent
Emily Kraus	present

Minutes: The draft April 3rd meeting minutes were approved without modifications.

Open Forum:

Old Business

A. STAR Communities

The STAR Community Rating program is open for subscription. There is a \$500 subscription fee. It is our understanding that the rating system cannot be accessed without paying the subscription fee. The program could be used to establish community bench marks which could be incorporated into the master plan and be used to guide the Town.

Rochelle B. reviewed green infrastructure.

Mike G. will discuss the Town's participation in the STAR Community Rating Program. In addition Mike G. to research the EPA website for a similar program.

The STAR Community program is supported by ICLEI, EPA, US Dept. of Energy, Waste Management, and ESRI.

The STAR Community website illustrates BETA communities. Albany NY is a BETA community.



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B. Town Energy Consumption

One goal of a town energy study would be to determine whether the Town initiatives have resulted in a reduction of energy use. Mike G. will seek approval from the Town Supervisor to work with the BCSD to tabulate the energy bill data. Eric W. has a contact with teachers at the High School.

C. Capital Improvement Plan

The committee would like to target vehicles for analysis. Mike G. will provide additional detail regarding the types and size of vehicle proposed to be purchased in the CIP.

D. Stormwater – Emily K.

This is Emily's last meeting. Emily was able to provide a watershed delineation for Allens Creek but there was not sufficient time to complete the remaining watersheds. Mapping of floodplains and potential choke points was not completed due to a lack of time and resources. The available computer models were insufficient to generate predictions of small areas of flooding along the creeks in Brighton. Finally the data on precipitation levels of 500, 100, and 50 year storm events in the New York/Brighton area was unavailable, further hindering mapping.

Mike G. will email Northeast Climate Rain Data website to Ron W.

E. Monroe Ave. Stormwater Project

The committee will be conducting consultant reviews in May. Three firms have been selected to interview.

F. Recycling

Mike G. will submit the Recycling letter to Tim Keef and Matt B. The Department of Public Works is now responsible to oversee the Park Department operations. Matt Beeman. Rebecca Cotter will oversee the Recreation Department.

G. Development Updates

Mike G. reviewed the development updates.



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New Business:

A. Faith Temple Property

The SOC reviewed a letter requesting that the Town of Brighton Town Board investigate the purchase and preservation of the Faith Temple property. The Committee endorsed the letter with no corrections. The letter should be submitted to the Town Board.

Adjournment: Meeting was adjourned at 8:30 PM

Next Meeting:

The next meeting will be held on June 5th, 2013 in the Stage Conference Room at 7:00 PM to 8:30 pm at Town Hall.

Minutes submitted by: Michael E. Guyon



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Sustainability Oversight Committee

June 5, 2013

Minutes

Attendance: Rochelle Bell, Erinn Ryan, Shubhangi Gandhi, Ron Wexler

Minutes: The minutes from the May 1, 2013 SOC meeting were approved with revisions.

Open Forum: There were no public comments.

Announcements: There were no new announcements

Old Business

- CIP Financial Analyses
 - Erin attended the June 4th Budget meeting and summarized the discussion. The Budget committee is comprised of Town residents who review the Capital Improvement Plan from a purely financial perspective. The Budget committee including the SOC members was asked to prioritize the CIP proposed improvements prior to the next Budget meeting. The next budget meeting is scheduled for June 26, 2013 at 8:00 AM.
 - The SOC reviewed the detailed CIP. Due to time constraints and the amount of information included in this document the committee agreed to meet ahead of the budget meeting to thoroughly review the CIP. The SOC scheduled a meeting for June 19, 2013 to review the CIP, identify sustainable projects and prepare a CIP review letter. A copy of the review letter that was developed at the June 19th meeting is attached for the committee's reference.
- STAR Communities Rating System
 - The SOC members agreed that the STAR Communities rating system is an appropriate tool to evaluate the Town's progress toward a sustainable community. The committee suggested using the rating system to evaluate and rank the CIP projects.
 - A STAR Communities membership is approximately \$500. A participating STAR Community has access to the STAR Community Rating System and its Technical Guide, receive login credentials for the Self-Assessment Tool and gain access to education and training programs. Mike G. will determine if the Engineering budget has sufficient funds to pay for a STAR Communities



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membership. The SOC members suggested that a STAR Communities champion should be identified to pursue the sustainable community goals.

- Town Energy Consumption
 - Erinn R. will contact the schools to determine whether the students are available to tabulate the Town's energy bill information.
- Stormwater/Monroe Ave GIGP Project
 - The Monroe Ave. GIGP committee has selected a design consultant. The Town Board will review the consultant selection at their June 26th meeting.
- Monroe Avenue Pilot Project
 - Town staff continues to pursue the property owner for an easement to install the Green Streets pilot project along Monroe Avenue. Plans should be submitted to the NYSDOT for approval by the end of July 2013.
- Recycling
 - The Town will be placing recycling containers at the 12 Corners Park alongside the existing refuse containers. The Town is contacting a representative from the Boy Scouts to oversee the recycling containers through the summer months.
 - Recycling dumpsters will be located at Meridian Park.
- Development Updates
 - Mike G. reviewed the status of Town projects and site development project
- Faith Temple Property Update
 - The Town received the letter from the SOC which suggested that the Town investigate the purchase of the Faith Temple Property.

New Business: There was no new business

Next Meeting

The next meeting will be July 10th, 2013.



Town of Brighton

MONROE COUNTY, NEW YORK

SUSTAINABILITY OVERSIGHT COMMITTEE, SOC

2300 ELMWOOD AVE. * ROCHESTER, NEW YORK 14618 * PHONE (585) 784-5250 * FAX (585) 784-5368

Sustainability Oversight Committee

July 10, 2013

Minutes

Attendance: Paul Tankel, Rochelle Bell, Erinn Ryan, Shubhangi Gandhi, Ron Wexler, Steve Kittelberger

Minutes: The minutes from the June 5, 2013 SOC meeting were approved with revisions.

Remembrance: The Committee observed a moment of silence for Peter DeBraal. Peter unexpectedly passed away on July 3, 2013. Peter was an original member of the SOC who left the SOC to serve on the Architectural Review Board in 2012. Peter will be missed.

Open Forum: There were no public comments.

Announcements: There were no new announcements

Old Business

- CIP Budget Review - Erin attended the June 26th Budget meeting and summarized the discussion. The Budget committee ranked each of the requesting capital improvements. Erin relayed the SOC's comments regarding the proposed capital improvements. The routing software suggestion was well received by the budget committee. Mike G. will determine the next budget committee meeting date. *The budget will be publically discussed for the first time at the September 25, 2013 Town Board meeting. A formal public hearing will be held on the budget at the October 10th and 24th Town Board meetings.*
- Star Community Rating System – The Town is agreeable to allocating \$500 to become a member of the Star Community. Rochelle B. will investigate other communities using this rating system and provide a summary report of her findings at the September meeting.
- Town Energy Consumption – Shubhangi and Mike G. will meet to discuss a spreadsheet that would be used to review the Town's energy data. The EPA may have developed databases that track energy use and can be used by the Town. The committee members should research the EPA to identify software that could be used to monitor the Town's energy use.



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Erin will contact the school to investigate using students to tally the Town's energy information.

Mike G. participated in a web presentation by Facility Dude. Facility Dude gathers energy data and provides software to analyze past and present energy use. Mike G. will contact a representative of the software and schedule a web presentation to the committee members.

Mike G. will contact the Commissioner of Public Works to identify sustainable issues requiring additional evaluation. The Consolidated Funding Application, CFA, offers grants for cleaner, greener community projects. There is approximately \$4,000,000 of available grant money.

- Faith Temple Property Update – The committee requested information regarding the zoning of the Faith Temple Parcel. The parcel is presently zoned RLB – Residential Low Density. The zoning requirements can be found at <http://ecode360.com/9440518>.

New Business

- The SOC indicated that the issue of increased storm severity should remain a discussion item and is worthy of further investigation
- A copy of the proposed bicycle boulevard is attached for the Committee's reference.

Adjournment

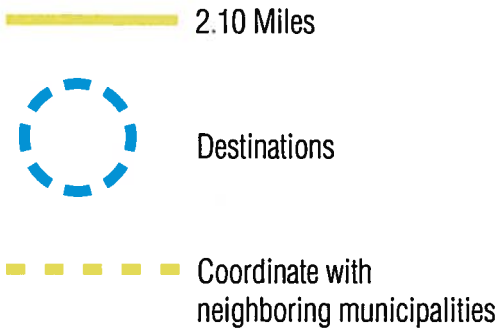
Next Meeting

The next meeting will be September 11, 2013.

RECOMMENDATIONS

Figure 22

Bicycle Boulevard 3 Concept
Brighton Library & Town Hall to
Highland Avenue



Bicycle Boulevards are typically established on neighborhood streets with low traffic volumes that provide cyclists with safe and convenient alternatives to high-traffic corridors.



Claybourne Road

Bicycle Boulevards should connect important community destinations, and provide routes that are reasonably direct and easy to navigate.



Highland Avenue

Bicycle Boulevards are cost effective because they utilize existing infrastructure. The street network in Brighton provides numerous opportunities to establish safe and convenient Bicycle Boulevards.



Not to scale

BICYCLE BOULEVARDS

- Low speed streets optimized for bicycle traffic
- Shared roadway intended for through-moving bicyclists
- Accessible for cyclists of all ages and abilities
- Limited to local motorized traffic by geometric design

SIGNAGE & ROAD MARKINGS

MUTCD Wayfinding signage: D1-3c



Implementation of a Bicycle Boulevard system can be as simple as selecting routes, distributing information, and identifying Bicycle Boulevards in the community with an integrated system of signage and pavement markings. Concurrence from the facility owner to be obtained prior to implementation. Any improvements outside the Town of Brighton to be coordinated with the neighboring municipalities. Improvements beyond the Town boundary will not be funded by the Town of Brighton.





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2300 ELMWOOD AVE. * ROCHESTER, NEW YORK 14618 * PHONE (585) 784-5250 * FAX (585) 784-5368

Sustainability Oversight Committee September 11, 2013

Minutes

Attendance: Paul Tankel, Rochelle Bell, Shubhangi Gandhi, Ron Wexler, Steve Kittelberger. Eric Williams

Open Forum: Ron, Paul, and Rochelle attended Greentopia. The Finger Lakes Regional Sustainability Plan was presented and the concept of “Story of Place” was introduced by the Regenes Group. The Story of Place™ is a systematic and participatory process that identifies and honors the unique nature of a region and the people who live there.

The SOC intends to use the beginning of the October meeting to discuss the idea of The Story of Place™ and the use of the Star Community Rating system during the Comprehensive Plan update. An outline of the Star Community Rating system was previously emailed to the committee members.

The committee members will research information regarding The Story of Place™ and discuss their ideas at the October meeting.

Minutes: The minutes from the July 10, 2013 SOC meeting were approved without revision.

Announcements:

Old Business

- CIP Budget Review
 - Mike G. discuss the attendance of the SOC at the Town Board Budget meeting
The budget can be found at the following web site address
<http://www.townofbrighton.org/index.aspx?NID=233>
 - A formal public hearing for the budget will be held at the October 10th and 24th Town Board Meetings
- Star Community Rating System – The system is in its infancy and is experiencing increased acceptance. Nine items within the rating system must be modified based on the initial feedback from participating communities. The framework of the rating system appears adequate but the details are a work in progress. The framework includes eight categories. These eight categories could assist during the Comprehensive Plan update.



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- Town Energy Consumption
 - Ron Wexler felt that the Facility Dude software should be evaluated further and that it might be a viable method to evaluate the Town's energy use. Mike G. is also exploring whether BCS now known as SmartEdge has a similar software and capability. SmartEdge installed the HVAC control system at the Town Hall Facility.
 - During the spring 2013 Erinn R. contacted the Brighton High School regarding the use of students to compile energy data from the Town. A progress status should be provided.
- Stormwater/Monroe Ave GIGP Project The Story of Place™ technique could be used to communicate the Monroe Avenue project to the residents and businesses along the Avenue.
- Development Updates
 - Winfield Park, DEIS
 - University of Rochester, GDEIS
 - Clinton Crossings, DEIS

New Business Mark Lynch from Iberdola discussed lighting and future opportunities to improve existing facilities. Town should contact Mark Lynch to discuss improvements to the Town lighting system

Adjournment

Next Meeting

The next meeting will be October 2, 2013 at 7:00 PM.



Town of Brighton

MONROE COUNTY, NEW YORK

SUSTAINABILITY OVERSIGHT COMMITTEE, SOC

2300 ELMWOOD AVE. * ROCHESTER, NEW YORK 14618 * PHONE (585) 784-5250 * FAX (585) 784-5368

Sustainability Oversight Committee

October 2, 2013

Minutes

Minutes: The committee reviewed and approved the minutes of the 9/11/13 meeting with no revisions.

Open Forum: There were no public comments at the October SOC meeting

Announcements: There were no announcements at the October SOC meeting

Old Business

- Comprehensive Plan Update – Mike Guyon will provide status of Comprehensive Plan at the November SOC meeting. The SOC recommends using LEED ND principles as the framework for the Comprehensive Plan Update. LEED ND is the foundation of the Star Community Rating system. Therefore, the SOC advocates using the Star Community Rating System framework and guidelines to develop the Town of Brighton Comprehensive Plan Update. The STAR Community Rating System continues to evolve and participating community's comments are being incorporated into the system to address community issues. Mike Guyon will prepare a letter to the Town Supervisor indicating that the SOC recommends that the Town use the Star Community Rating system as a systematic approach to developing the Comprehensive Plan Update. *A copy of the letter is attached for each members review.*
- The Town of Brighton's "Story of Place" would benefit the development of the Comprehensive Plan. A "Story of Place" video could be maintained on the Town of Brighton website to promote community discussion.
- The SOC acknowledged that the Town Board membership has changed since the SOC was formed and discussed the Board's understanding of sustainable issues and the role of the SOC. The committee discussed individual interviews with the Board members to develop an understanding the each member's expectations of sustainability within the Town of Brighton. The SOC members will email pertinent interview questions to Mike Guyon who will collate the information and present the questions at the November SOC meeting. *A listing of the questions is attached for each members review.*
- Town Budget – was presented to the public at the October 10th and 24th Town Board Meetings



Town of Brighton

MONROE COUNTY, NEW YORK

SUSTAINABILITY OVERSIGHT COMMITTEE, SOC

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- Town Energy Consumption – Mike Guyon and Ron Wexler will meet before the November meeting to discuss the use of the Facility Dude software package and utilizing the High School Students to assemble the Town of Brighton's energy use data
- Stormwater/Monroe Ave GIGP Project – The GIGP committee continues to meet with the consultants to develop a public participation plan and concept plan for the Monroe Avenue GIGP project. The first public information will be held before the end of 2013. The Monroe Avenue "Story of Place" should be developed and used as a guideline to formulate the GIGP project.
- Development Updates
 - Winfield Park DEIS – Public, Town and SOC comments were forwarded to the project consultant for consideration. The FEIS will address these issues.
 - University of Rochester – The University is progressing the imaging building project which is located along East River Road. This project is part of the South Campus project and the incentive zoning application must be approved to advance the approval of this project. The project consultant is working on a supplement to the FGEIS to address the Town of Brighton's issues.
 - Clinton Crossings – There is no action pending regarding this project.

New Business

Adjournment

Next Meeting

The next meeting will be November 6, 2013.



Town of Brighton

MONROE COUNTY, NEW YORK

SUSTAINABILITY OVERSIGHT COMMITTEE, SOC

2300 ELMWOOD AVE. * ROCHESTER, NEW YORK 14618 * PHONE (585) 784-5250 * FAX (585) 784-5368

Sustainability Oversight Committee November 6, 2013

Minutes

Minutes: The committee reviewed and approved the minutes of the 10/2/13 meeting with no revisions.

Open Forum: There were no public comments at the November SOC meeting

Announcements: There were no announcements at the November SOC meeting

Old Business

- Comprehensive Plan Update –The SOC recommends using the Star Community Rating system principles as the framework for the Comprehensive Plan Update. The Town has applied for a grant to offset the costs of developing the Comprehensive Plan Update. The Town is awaiting notification with regard to this grant.
- Letter to Supervisor – Mike G. will submit a letter to the Town Supervisor indicating that the SOC would be glad to meet with the Town Board to further discuss the use of the STAR Community Rating System to assist with the development the Comprehensive Plan Update.
- Town Board Member Interviews – The SOC discussed the Town Board member interviews and the appropriate questions to present to the Town Board members. The questions should be broad in format and the questions should not reference sustainability. A list of thirteen questions is attached to these minutes along with a condensed version based upon the discussion at the SOC meeting.

Mike G will contact the Town Supervisor to inform him of the SOC's intent to interview individual Board members. In a discussion following this meeting the Town Supervisor indicated that he would prefer an informal meeting between the SOC and the Town Board. Mike G. will schedule this meeting.

- Stormwater/Monroe Ave GIGP Project – The GIGP committee continues to meet with the consultants to develop a public participation plan and concept plan for the Monroe Avenue GIGP project. The first public information will be held on December 10, 2013 from 4:00 to 7:00 PM.
- Development Updates
 - Winfield Park DEIS – Public, Town and SOC comments were forwarded to the project consultant for consideration. The FEIS will address these issues.



Town of Brighton

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- University of Rochester – The University is advancing the imaging building project in conjunction with the IPD rezoning application. This project is part of the South Campus project and the incentive zoning application must be approved to advance the approval of this project. The project consultant is working on a supplement to the DGEIS to address the Town of Brighton's issues. The Town is reviewing the SDGEIS for completeness before it is available for public comment.
- Clinton Crossings – There is no action pending regarding this project.
- Annual Report – The SOC must prepare an annual report that outlines their 2013 accomplishments. Mike G. will prepare a draft report for the committee's review.

New Business

Adjournment

Next Meeting

The next meeting will be January 15, 2013. I have attached a tentative 2014 meeting schedule for your review and comment.



STAR Community Rating System



TOWN OF BRIGHTON
MONROE COUNTY, NEW YORK
SUSTAINABILITY OVERSIGHT COMMITTEE

October 28, 2013

Supervisor Moehle
Town of Brighton Town Board
2300 Elmwood Ave
Rochester, New York 14618

Re: Star Community Rating System
Comprehensive Plan Update

Dear Supervisor Moehle:

The Sustainability Oversight Committee is exploring the use of the STAR Community Rating System (STAR) to chart a clear path to meaningful action in our work and to help the Town of Brighton quantify its livability and sustainability achievements. STAR is the nation's first voluntary, self-reporting framework for evaluating, quantifying, and improving community livability and sustainability. STAR was inaugurated in 2012 with 30 pilot communities, one of which is the City of Albany, NY; Madison County, NY is one of 15 municipalities to start participating in 2013.

The SOC recommends that the Town view the upcoming Comprehensive Plan update process as an opportunity to produce a plan that provides an active roadmap to a sustainable Brighton. STAR could provide beneficial guidance in the preparation of the Town's Comprehensive Plan update due to its organizational structure, streamlined data collection support and provision of "best practices" from communities around the country. The Town of Brighton could also consider subscribing to the STAR Community Rating System at the "Participating STAR Community" level or the "Reporting STAR Community" level and utilize the technical resources provided to STAR Communities to assist with the preparation of the Comprehensive Plan update.

The SOC committee would be glad to meet with you or the Town Board to further discuss the use of the STAR Community Rating System.

Sincerely,

Sustainability Oversight Committee
Paul Tankel, Chairperson
Ron Wexler, Vice-Chair
Erinn Ryen
Stephen Kittelberger
Shubhangi Gandhi
Rochelle Bell
Eric Williams

2300 Elmwood Avenue • Rochester, New York 14618 • 585-784-5250 • Fax: 585-784-5373
<http://www.townofbrighton.org>





Facility Dude Quote



11/6/2013

Mike Guyon
Town of Brighton
2300 Elmwood Avenue
Rochester, NY 14618

Dear Mike,

Thank you for your interest in UtilityTrac Plus, an affordable online tool that enables organizations to track, analyze and report on utility consumption. FacilityDude is dedicated to providing you best in class solutions with unlimited training and support. Ask us about our other simple, affordable online facility management solutions that will help you save money, increase efficiency and improve services.

Pricing for UtilityTrac Plus is based on the total number of meters:

Estimated Meters*: 51

**Totals added above those documented will be charged accordingly.*

	Frequency	Total
UtilityTrac Plus Quick Start & First Year Investment	One Time	\$2,974.00
UtilityTrac Plus Ongoing Annual Renewal	Starting Year Two	\$1,838.00
Includes unlimited users, training and support		

To ensure your success with UtilityTrac Plus it is our goal to get your organizational information and 24 months of billing history populated in your account within the first 120 days of signing this agreement.

UtilityTrac Plus Import Services

UtilityTrac Plus includes account set up and data imports. This service is comprised of two main components.

1. **Account Set Up** – In your initial training FacilityDude will work with you to setup your UtilityTrac account with your building, vendor, account, and meter information. The following basic information is what is needed at set up:
 - Building name
 - Building square footage
 - Service address
 - Building primary use
 - Vendor name
 - Account number
 - Meter number
 - Commodity type
 - Unit of measure
2. **Historical Data Import** - FacilityDude will populate your account with 24 months of historical data. You will need to provide 24 months of utility information (**electric, water/sewer, and natural gas**) to FacilityDude in Excel format, within 45 days of signing the agreement. The data required in the billing history should include: account number, meter number, start date, end date, usage by meter, and cost by meter. This can be provided in a few different ways:
 - **Data from utility companies** - You can request 2 years of historical summary data from the utility companies (please note summary data is needed, not billing data). Be sure to request summary data not billing data. Upon receiving that information we will import that data into your account. Please note that not all utility companies can provide this data and when it is available it may take a few months to receive.
 - **Data in spreadsheets** -If you have been tracking your utilities in spreadsheets, we will accept those for importing. Please remember that not all Excel spreadsheets are created equal; if you have your data in an Excel Spreadsheet, we will need to review your layout to determine if it is in a format that will allow us to import the data. If we are unable to use your data to provide an import, please use one of the other methods listed.
 - **Copies of bills** - If the first two options are not available we will accept hard copies of bills for the 24 month history at an additional charge of \$1.30 per bill. Please note that this option takes longer to process.

Please provide FacilityDude with a main contact, should any questions about the account set up arise.

General Conditions

- Proposal has been prepared for Town of Brighton.
- Proposal is valid for 60 days.
- Agreement is effective per the date listed on page one.
- Initial term: year to year.
- Automatic invoicing of annual fee will occur at the end of each term unless request for non-renewal is received in writing 30 days prior to renewal date.
- Payment: Terms are net 30 days.
- Applicable sales taxes are in addition to the quoted price. If Town of Brighton is tax exempt please include a copy of your Tax Exemption Certificate with this signed proposal or email it separately to accounting@facilitydude.com.
- Subscription begins on the day the proposal is signed.
- All required data is to be provided by you prior to setup.
- Technical support is available from 8am to 6pm Eastern Standard Time at 877-655-3833 or support@facilitydude.com.
- A quote will be provided for any assistance outside the scope of this proposal.
- Although the terms of this document control, all other conditions of use can be found at <http://facilitydude.com/privacy-terms-of-use/>.

The undersigned accepts the above detail and agrees to the terms herein.

SUBMITTED BY:

JIMMY FORBES

Representative Name

11/6/2013

Date

ACCEPTED BY:

Customer Signature

Date

Print Name

Position

Please address the purchase order to:

FacilityDude.com

11000 Regency Parkway, Suite 200

Cary, NC 27518

***** Please mail the original and fax or email a copy of the signed proposal and purchase order to 919-827-0693 or sales@facilitydude.com.**



Wind Energy Report

Brighton Wind

Turbine:	Type	Power Output:	Annual Energy Output:	Cut-In Speed:	Cut-Out Speed:	Height:	Rotor diameter:	Noise level (with 11m/s hub height wind speeds)	Price (without credits)	Price (with estimated 45% of costs covered by credits)	Rating for residential:
Bergey Excel 10	3 blade horizontal	8.9 kW @ 11 m/s	13,800 kWh @ 5 m/s	2.5 m/s	None	60-160 feet	7 meters/23 feet	>45 dB	\$31770	\$17474	
Endurance S-343	3 blade horizontal	5.4 kW @ 11m/s	8,880 kWh @ 5m/s	4.1 m/s	25 m/s	90-120 feet	6.37 m/ 21 ft	Untested	\$50,000- \$60,000	\$27500- \$33000	
E Vance R9000	3 blade horizontal	4.75 kW @ 11 m/s	9,167 kWh @ 5 m/s	3.0 m/s	None	33-60 feet	5.5 m/ 18 ft	>45 dB	\$48344	\$26590	
Gaia-Wind GW133	2 blade horizontal	11 kW @ 11 m/s	27,502 kWh @ 5 m/s	3.5 m/s	25 m/s	50-90 feet	13 m/ 43 ft	>45 dB	\$88884	\$48886	
Seaforth AOC 15-50	3 blade horizontal	40 kW @ 11 m/s	50,000 kWh @ 5 m/s	4.9 m/s	22.4 m/s	80-140 feet	15 m/ 49 ft	Untested	\$333460	\$183403	
SW Skystream 3.7	3 blade horizontal	2.1 kW @ 11 m/s	3,420 kWh @ 5 m/s	3 m/s	None	Not stated	3.7 m/ 12 ft	>45 dB	\$18,000- \$22,000	\$9900- \$12100	
Jacobs 31-20	3 blade horizontal	12 kW @ 11 m/s	5,000 kWh @ 8 m/s	3.5 m/s	None	80, 100, or 120 feet	9.5 m/ 31 ft	Untested	\$63,000- \$93,000	\$34650- \$51150	
WindTamer 4.5 GT	Multi-blade horizontal	0.6 kW @ 11m/s	800 kWh @ 5m/s	2 m/s	None	37 feet	1.4 m/ 4.5 ft	<25 dB (silent)	\$14000	\$8,000 (quoted from website)	
Xzeres 442 SR	3 blade horizontal	9.17 kW @ 11 m/s	15,000 kWh @ 5m/s	2.2 m/s	None	Not stated	7.2 m/ 23.6 ft	>45 dB	\$100000	\$10,000 (quoted from website)	
Vertical Axis Models											
Windspire	Vertical spire	1.2 kW @ 11m/s	2,000 kWh @ 5m/s	3.8 m/s	None	5, 10, 15, or 20 feet	1.2m/ 4 ft	6 dB above ambient in 15 mph wind, 6 ft away	\$4,995 with installation costing \$1,000 to \$3,000	NA	
Quiet Revolution qr5	3 blade vertical	6.5 kW @ 16 m/s	4,197 kWh @ 5m/s	5 m/s	26m/s	20ft (roof mount), 49 ft or 59 ft for ground	3.1 m/ 10.2 ft	Data not available	\$38000	NA	
Eddy GT:	3 blade vertical	0.8 kW @ 11 m/s	1,550 kWh @ 5 m/s	3.5 m/s	30 m/s	7, 23, 43, 66, or 100 ft	1.8 m/ 6 ft	In 12 m/s winds: under 38 dB	\$6,940 w/o install costs	NA	

Ratings for residential wind turbines were generated by weighing turbine aspects of height, diameter, and noise level with respect to Brighton resident's general concerns surrounding the technology. Shorter turbines with smaller fall-zones and low noise levels were given green ratings as the best potential technological fit for the town. Larger turbines with higher levels of background sound pollution above ambient were given yellow or red ratings, as somewhat unsuitable and highly unsuitable for the town respectively. |

Resources for Residential Wind Power Generation in New York State

Emily A. Kraus
Sustainability Oversight Committee of the Town of Brighton
February 6th, 2013

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I. Overview: New York State and Federal Financial Incentive Programs for Residential Wind

i. On-Site Small Wind Incentive Program

Program Overview: A New York state NYSERDA rebate program for commercial, industrial, residential, nonprofit, government, agricultural, or institutional wind energy projects. The maximum rebate is the lesser option of \$400,000 per site/customer or 50% of the installed cost of the wind system. Incentives are paid to eligible installers, not directly to owners of the wind system and wind turbine models must be approved by NYSERDA. Program will run from January 2012 to December 31st, 2015.

Program Requirements: To receive the incentive, the wind generation system must be a new, approved model with at least a 5 year warranty for 100kW or less systems or a 2 year warranty for systems producing greater than 100kW. Monitoring equipment and inverter must be certified as per program standard. Eligible wind systems cannot exceed 2 MW per site/customer or 110% of the sites previous energy requirements. Installation must be completed by a program-approved party, must be grid-tied, and should have a tower height of 60 feet or greater. Some of these terms are flexible with a site evaluation.

Amount of Incentive: For the first 10,000 kWh of annual energy produced rebate is: \$3.50/kWh. For the next 115,000 kWh of expected annual energy produced: \$1.00/kWh. For energy produced greater than 125, 000 kWh: \$0.30/kWh.

Program Website/Source:

<http://www.nysenda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-2439-On-Site-Wind-Turbine-Incentive-Program.aspx>

Contact Information:

Public Information - NYSEDA Small Wind Program
New York State Energy Research and Development Authority
17 Columbia Circle. Albany, NY 12203-6399
Phone: (518) 862-1090 Phone 2: (866) 697-3732
E-Mail: smallwind@nysenda.ny.gov

ii. Residential Renewable Energy Tax Credit

Program Overview: A New York State residential property tax incentive program for multiple energy efficient technologies as well as solar heat and electricity generation, biomass, geothermal, and wind power systems.

Amount of Incentive: Incentive is given in amount of 100% of the value added to the residence by the improvements.

Program Website/Source:

http://www.tax.ny.gov/research/property/assess/manuals/vol4/pt1/sec4_01/sec487_a.htm

Contact Information:

Public Information Officer
 Office of Real Property Tax Services
 WA Harriman State Campus. Albany, NY 12227
 Phone: (518) 591-5232 E-Mail: orpts.mail@tax.ny.gov

iii. Energy Conservation Improvements Property Tax Exemption

Program Overview: A Federal personal tax credit program for wind systems and multiple other renewable energy technologies within the residential sector. Program expires December 31st, 2016.

Program Requirements: Turbine systems must be certified to NYSERDA standards. Systems must be installed between January 1st, 2008 and December 31st, 2016. The home served by the system does not need to be the taxpayer's principal residence.

Amount of Incentive: 30% of the cost of the wind system. Excess credit can generally be carried forward to the next tax year.

Program Website/Source:

http://www.energystar.gov/index.cfm?c=tax_credits.tx_index

Contact Information:

Public Information - IRS
 U.S. Internal Revenue Service
 1111 Constitution Avenue, N.W. Washington, DC 20224
 Phone: (800) 829-1040

iv. Solar, Wind, & Biomass Energy Systems Exemption

Program Overview: A New York State property tax incentive program for wind systems as well as a variety of solar, photovoltaic, and biomass set-ups in the residential, agricultural, commercial, or industrial sectors. Program expires December 31st, 2014.

Program Requirements: Determined by local county governments. None specified for wind on program site.

Amount of Incentive: Up to 100% exemption possible for 15 years (local jurisdiction decides)

Program Website/Source:

http://www.tax.ny.gov/research/property/assess/manuals/vol4/pt1/sec4_01/sec487.htm

Contact Information:

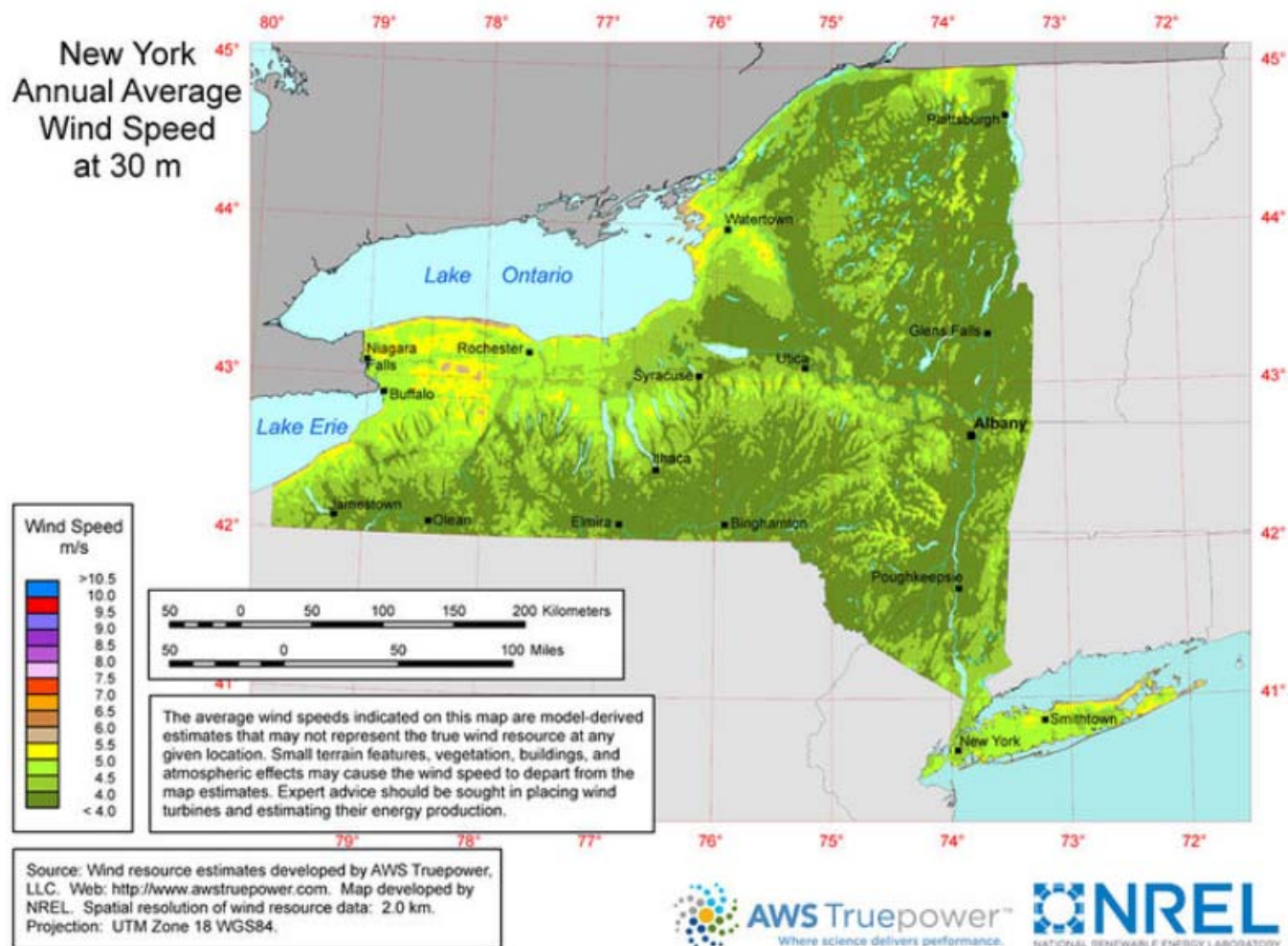
Public Information Officer
 Office of Real Property Tax Services
 WA Harriman State Campus. Albany, NY 12227
 Phone: (518) 591-5232 E-Mail: orpts.mail@tax.ny.gov

Source for future searches of incentive programs:

<http://www.dsireusa.org/incentives/index.cfm?re=0&ee=0&spv=0&st=0&srp=1&state=NY>

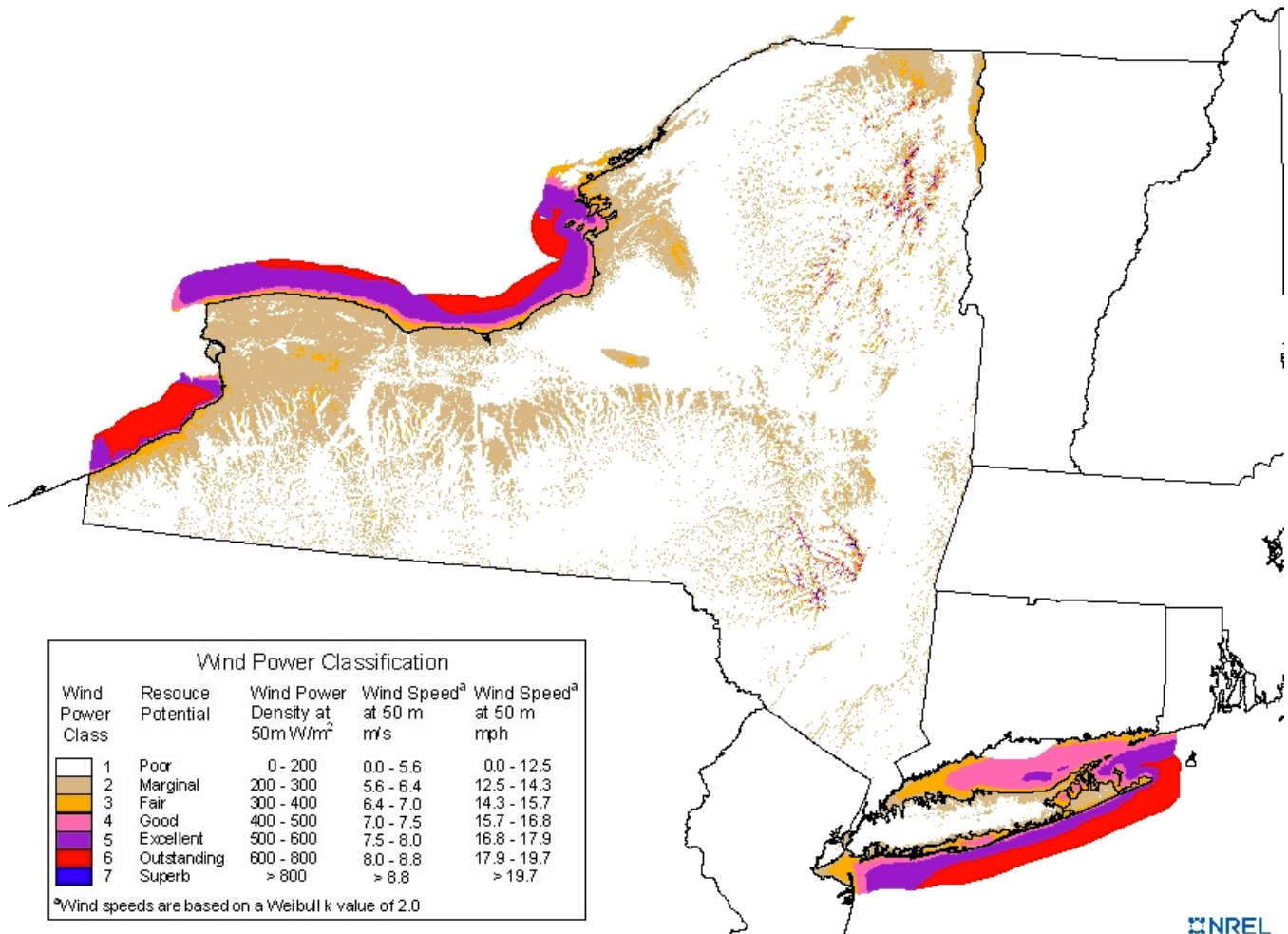
II. Wind Resources of New York State

i. Wind resources at 30 meter height (98 ft.)

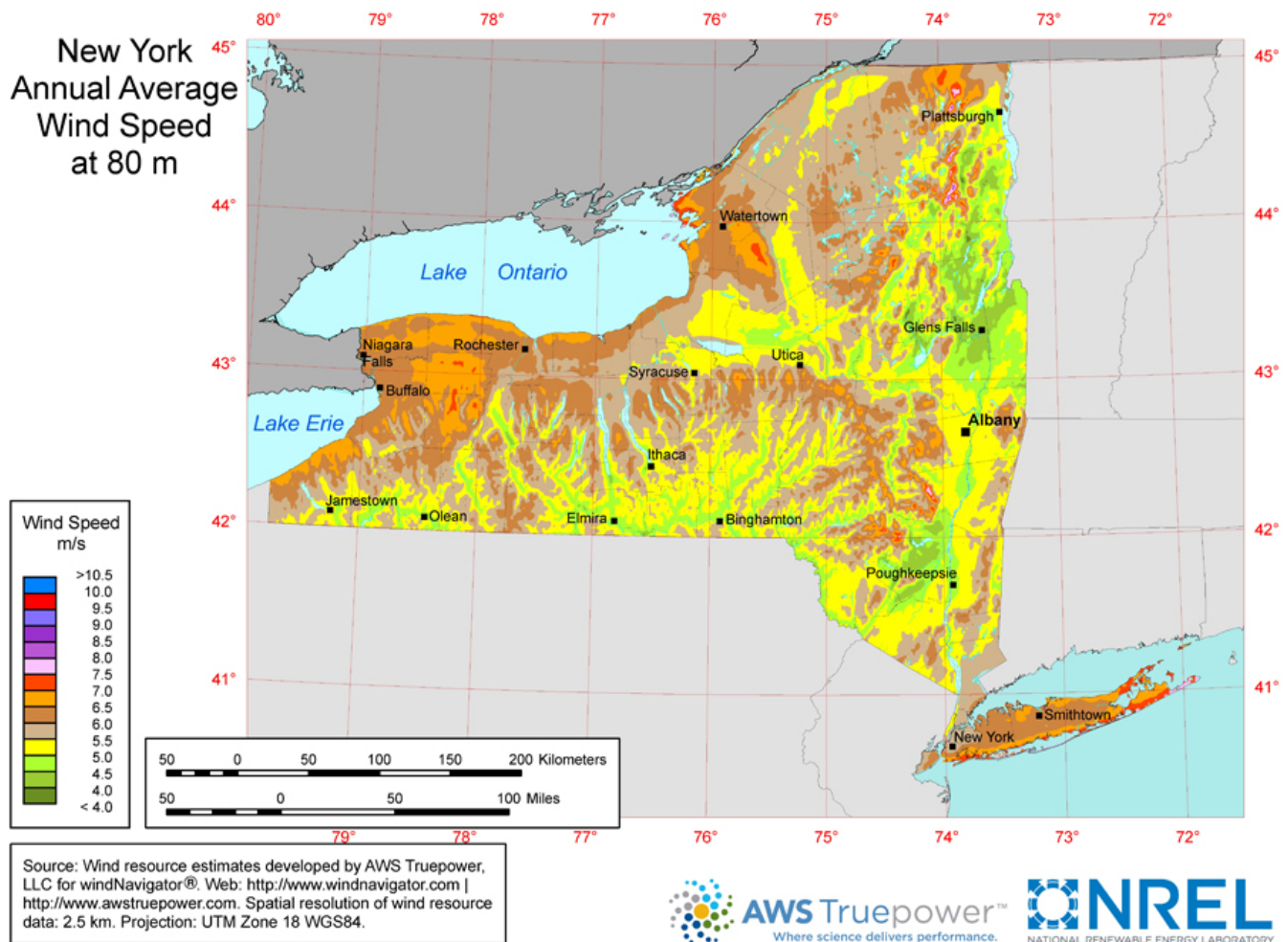


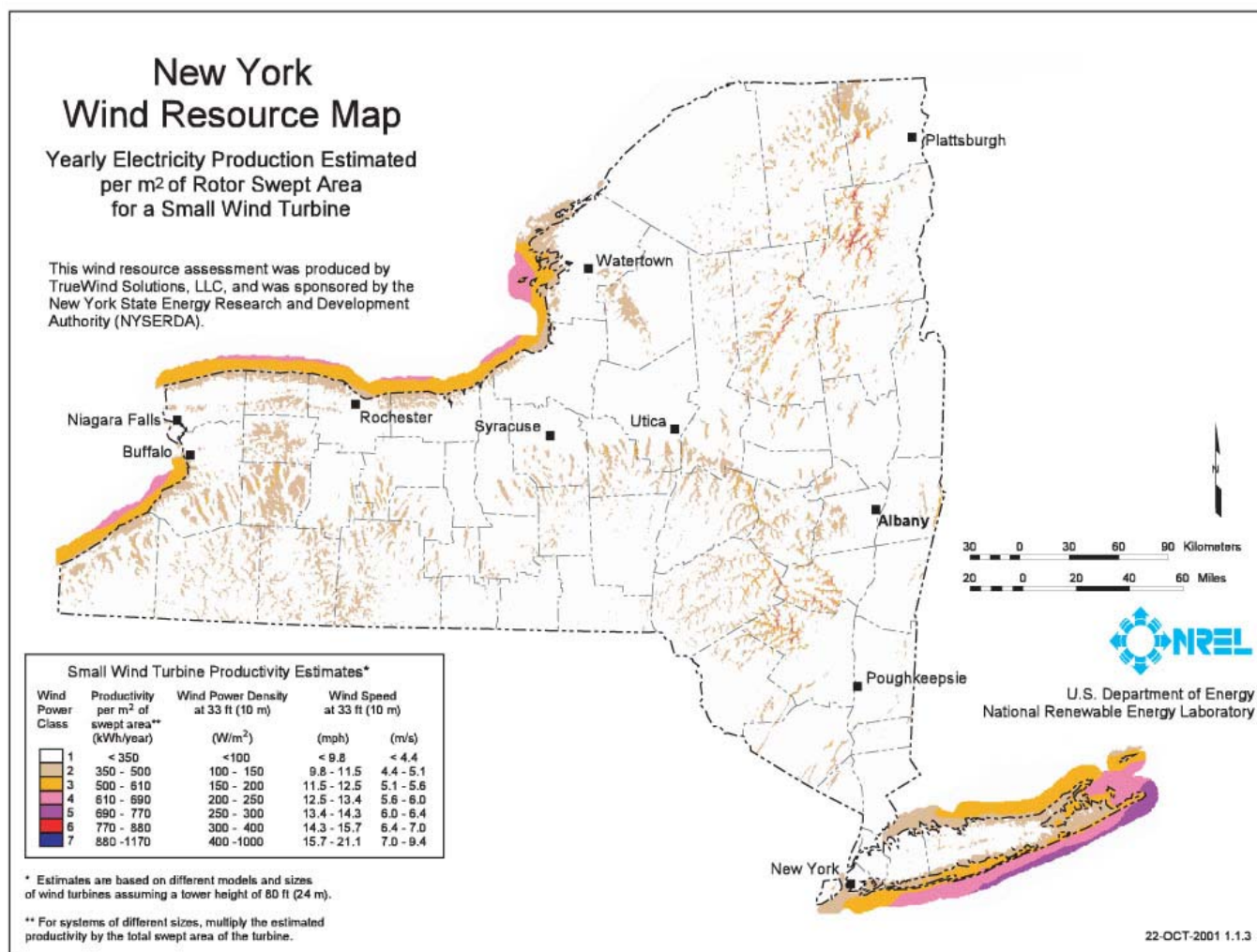
ii. Wind resources at 50 meter height (164 ft.)

New York - Annual Wind Power at 50-m Height



iii. Wind Power at 80 meter height (262 ft.)





IV. Observations:

- iii. At most heights, wind speeds are fair to relatively poor to serve as the *only* source of electricity generation via wind turbines for a residential home. Wind speeds are sufficient to generate significant electricity to offset residential usage.
- iv. Wind speeds are greatest at higher altitudes and along the lake shore.
- v. The maps show averaged wind speeds over a year. Wind speeds increase during fall and winter months, when energy demand is greater. Wind turbines can help offset winter energy costs.

III. Small Wind Turbines Certified for NYSERDA Funding and Incentives

Information is for “small” turbines (with a swept area of less than 200 m².) Information was gathered through the Interstate Turbine Advisory Council website, certification reports, and manufacturer’s websites. Source:

Interstate Turbine Advisory Council. (2012). *ITAC Unified List of Wind Turbines*. Accessed November 24, 2012, from <http://www.cleanenergystates.org/projects/ITAC/itac-unified-list-of-wind-turbines/>

i. Bergey Excel 10



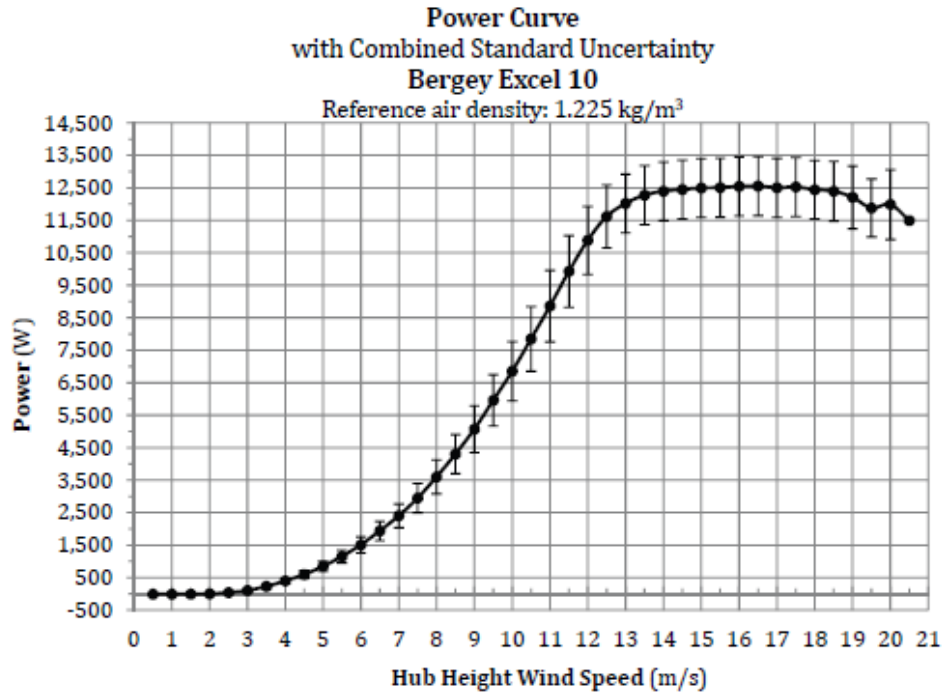
Manufacturer:	Bergey Windpower Co. (2200 Industrial Blvd. Norman, OK 73069)
Description:	3 blade design, grid-tied, horizontal axis, swept area of 38.5 m ² , 7 meter (23 ft.) rotor diameter, weight: 1,200 lb, fixed pitch, permanent magnet alternator generator, AC output, operating lifetime: 30-50 years, temperature range: -40 to 140 degrees Fahrenheit, available in Rochester (dealers in Syracuse and Niagara Falls)
Cut-in Wind Speed:	2.5 m/s (5mph)
Cut-out Wind Speed:	None
Survival Speed:	60 m/s (134mph)
Start-up Wind Speed:	3.4 m/s (7.5mph)
Towers:	60-160 foot tall towers; guyed, self-supported, tilt-up
Other Models:	5kW model exists but is not yet certified
Warranty:	10 years

Power Data:

AWEA Rated Power: 8.9kW at 11m/s (24.6 mph)

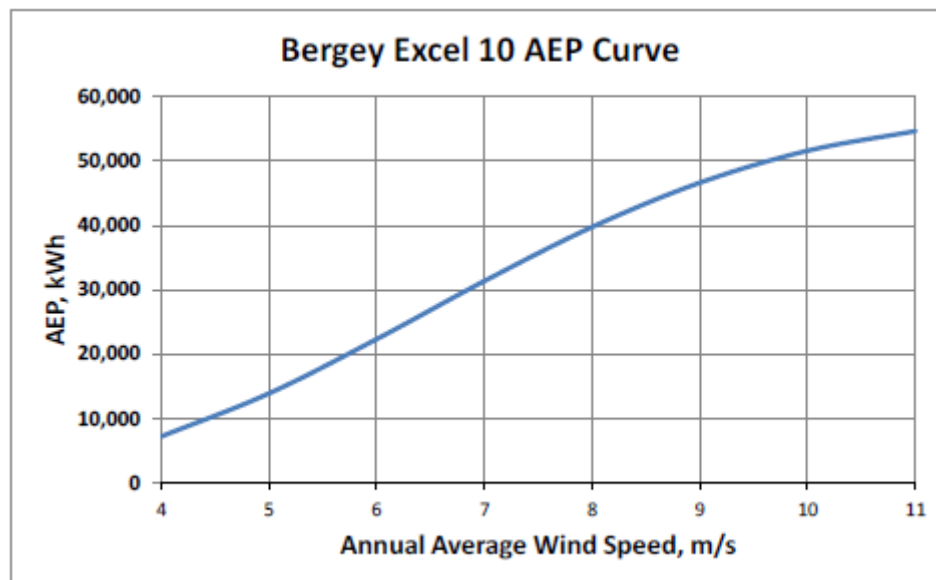
Peak power: 12.5 kW at 28 mph

Nominal power: 10kW at 12m/s (27mph)



AWEA Rated Annual

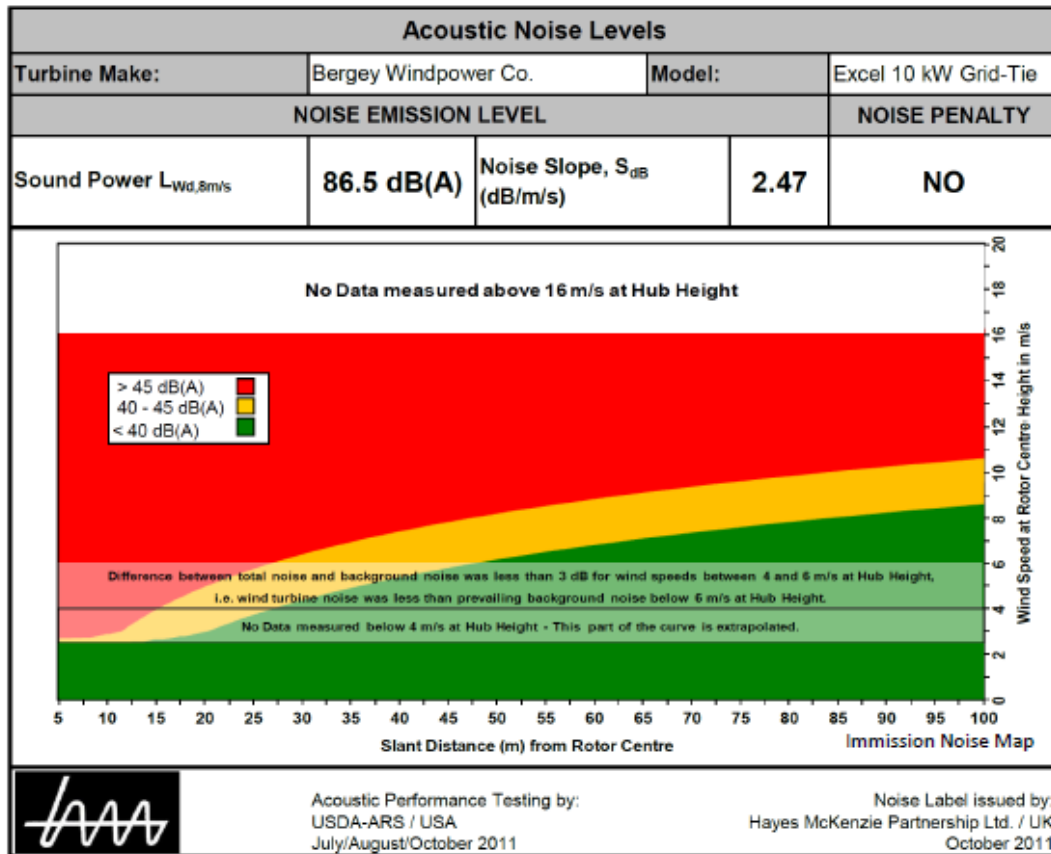
Energy: 13,800 kWh (at 5m/s or 11mph)



Sound Data:

AWEA Rated Sound Level: 42.9 dB

Noise Label:



The BWEA Reference Sound Levels at 25m and 60m at an 8 m/s hub height wind speed are:

$$L_{p,25m} = 51 \text{ dB(A)}$$

$$L_{p,60m} = 43 \text{ dB(A)}$$

Sources: <http://www.cleanenergystates.org/assets/2012-Files/ITAC/Summary-Reports/bergeyExcel10SWCCsummaryreport.pdf>
<http://bergey.com>
<http://www.cleanenergystates.org/assets/2012-Files/ITAC/Summary-Reports/BergeyExcel10MCSsummaryreport.pdf>

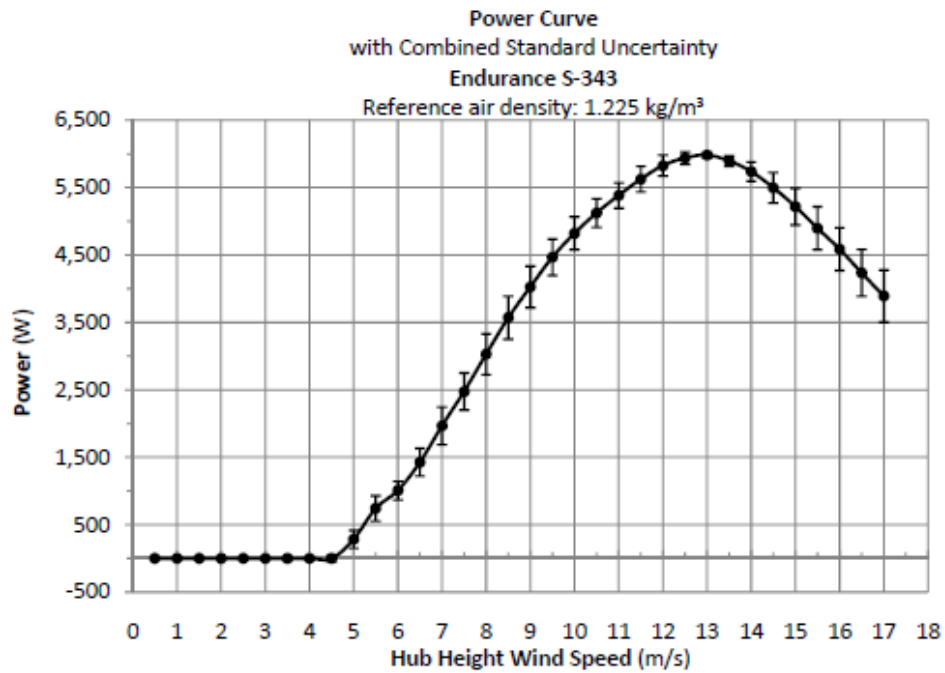
ii. Endurance S-343 5kW Wind Turbine:



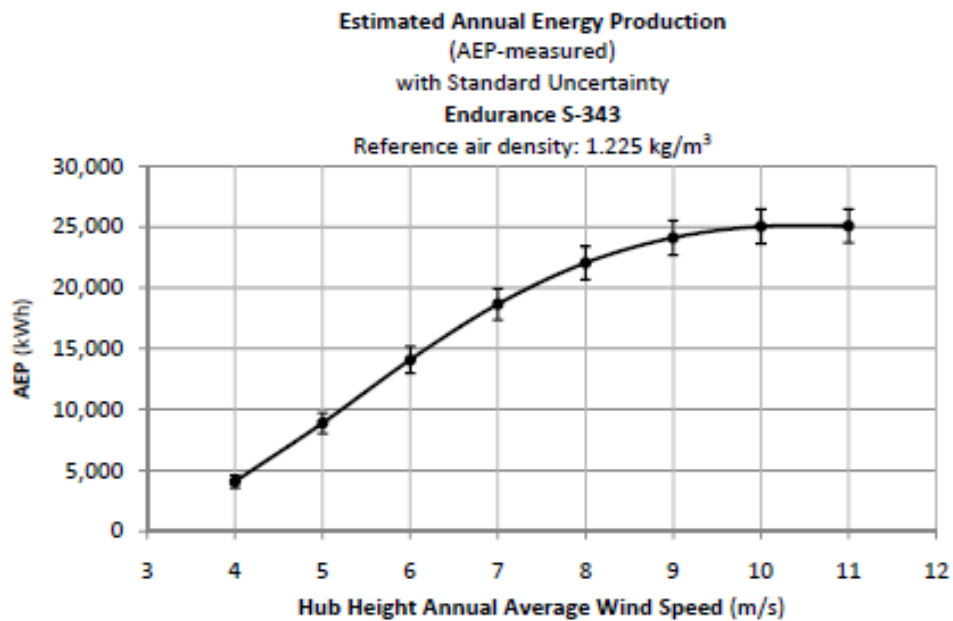
Manufacturer:	Endurance Wind Power (3815 E. U.S. Highway 6. Spanish Fork, UT 84660)
Description:	3 blade design, upwind, horizontal-axis, rotor-diameter of 6.37 m/21 ft, swept area of 31.9 m ² , blades are 3.1m/ 10.1ft long and made of fiberglass, computer monitoring and data collecting software available, 166 rpm rotor speed, weight is 661 lbs., can be shipped to Rochester
Cut-in Wind Speed:	4.1 m/s (9.2mph)
Cut-out Wind Speed:	25 m/s (55.9 mph)
Survival Wind Speed:	52 m/s (116 mph)
Breaks/Safety:	Mechanical brake on rotor shaft, passive stall rotor design, secondary fail-safe mechanism on rotor shaft. Brakes engage with high wind speeds, grid failure, and for other detectable faults.
Towers:	31.1 m (102 ft) or 36.6m (120 ft) tilt-able guyed towers or 27.5 m (90ft) tilt-able freestanding
Other models:	E-3120 (50 kW) and G-3120 (35 kW)
Warranty:	5 years

Power Data:

AWEA Rated Power @ 11m/s: 5.4 kW



AWEA Rated Annual Energy @ 5m/s: 8,880 kWh



Noise Data: None available at this time/noise certification not completed

Sources:

<http://www.smallwindcertification.org/wp-content/new-uploads/2012/09/LPP-Report-10-09.pdf>
<http://www.endurancewindpower.com/s343.html>

iii. Evance R9000:



Manufacturer:	Evance Wind (UK Company)
Description:	3 bladed rotor, upwind, 5.5 m (18 ft) fiberglass rotor diameter, 200rpm rotor speed, 715 lbs. weight, 20 year minimum lifetime of technology)
Cut-In Wind Speed:	3 m/s (6.7 mph)
Cut-out Wind Speed:	None, continuous generation until survival wind speed
Survival Wind Speed:	60m/s (134 mph)
Avg. Turbulence Intensity At 15m/s:	7.96%
Breaks/Safety:	Automatic braking, operated between -20 deg C and 50 deg C,
Tower:	Freestanding, tilt-able, 10m, 12m, 15m, & 18m (33ft, 40ft, 50ft & 60ft)
Warranty:	5 years
<u>Power Data:</u>	
Rated Power:	5 kW @ 12 m/s (26.9mph)

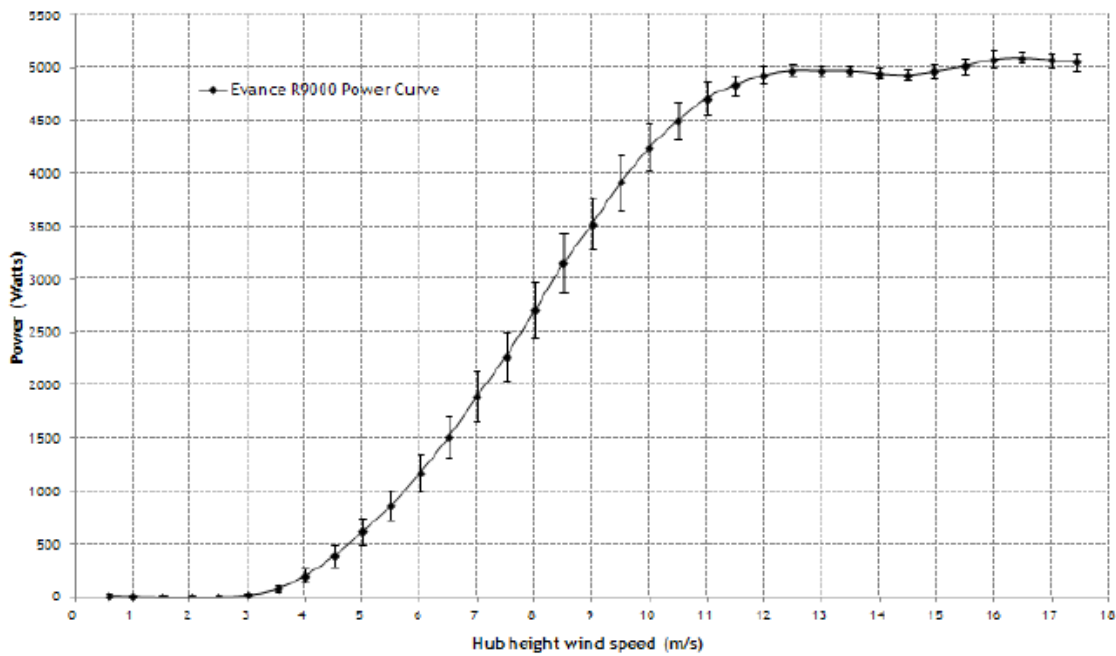


FIGURE 1 - POWER CURVE AND COMBINED STANDARD UNCERTAINTY AT SEA LEVEL AIR DENSITY, 1.225kg/m³

BWEA Reference Annual Energy: 9,167 kWh at 5m/s (11mph)

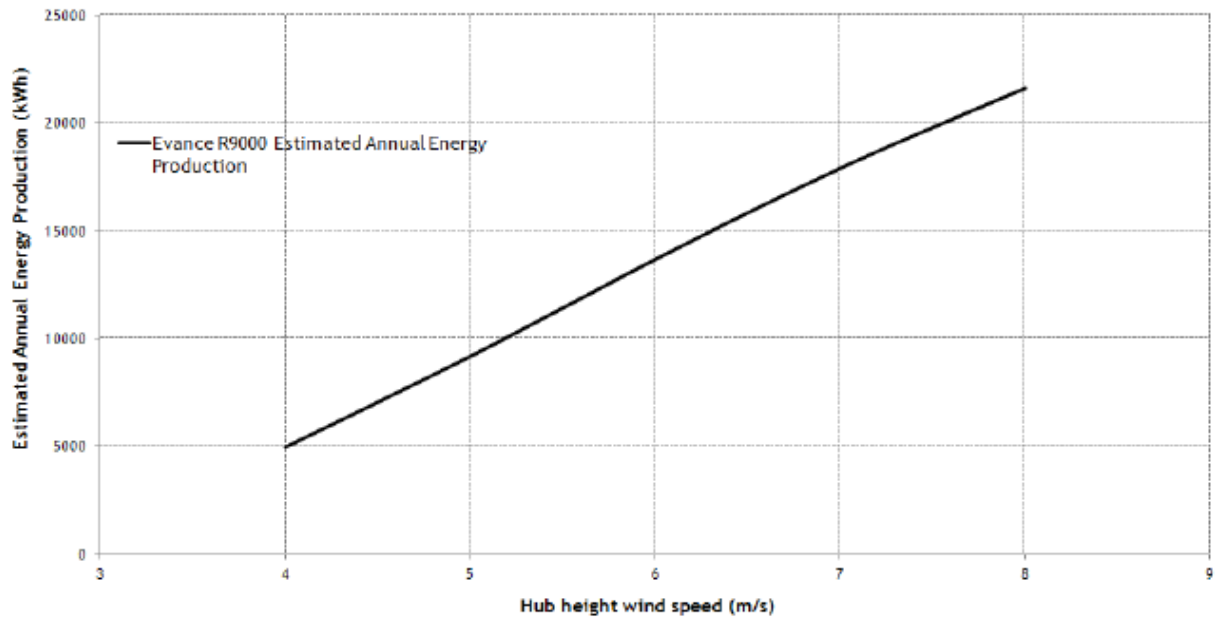


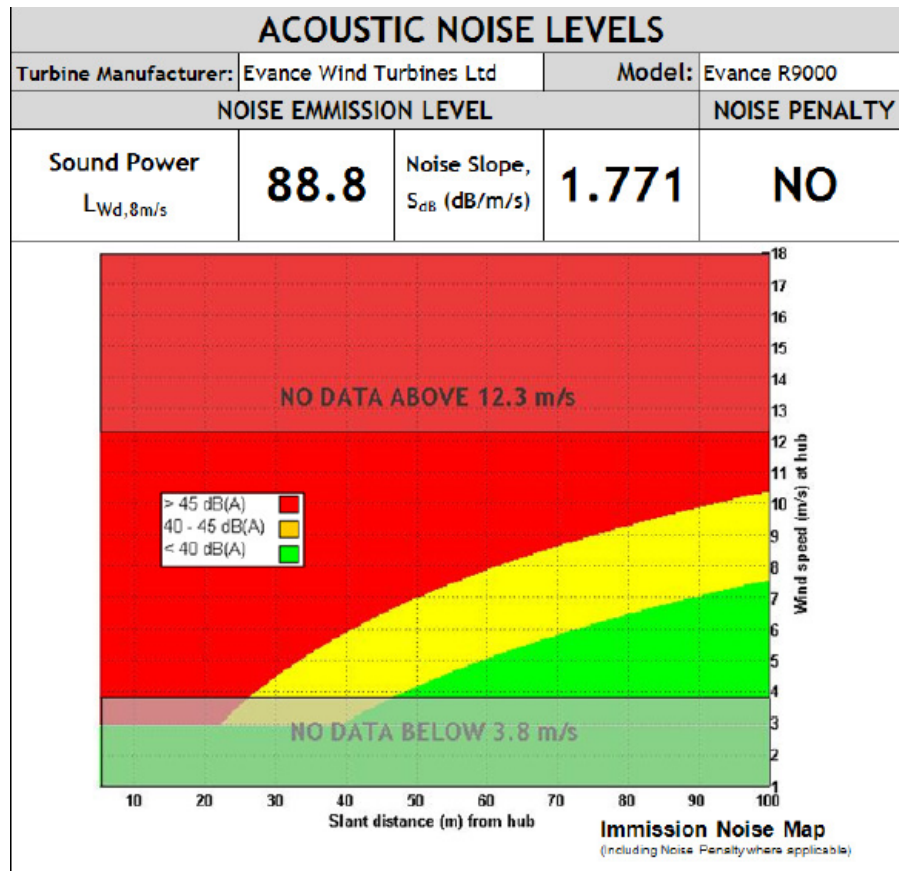
FIGURE 2 - ESTIMATED ANNUAL ENERGY PRODUCTION AT SEA LEVEL AIR DENSITY, 1.225kg/m³

Noise Data:

BWEA Reference Sound Level at 25m at an 8 m/s hub wind speed: 52.8 dB

BWEA Reference Sound Level at 60m at an 8m/s hub wind speed: 45.3 dB

Noise Label:



Sources:

<http://www.evancewind.com/>

<http://www.cleanenergystates.org/assets/2012-Files/ITAC/Summary-Reports/r9000mcssummaryreport04.pdf>

IV. Gaia-Wind GW133-11kW



Manufacturer:	Gaia-Wind Ltd., (Glasgow, UK)(Installer: Pyrus Energy 2737 Erie Drive Weedsport NY)
Description:	Twin blade rotor with 13 m diameter, made of fiberglass, swept area of 133 m ² , fixed rotor speed of 56 rpm, weight of turbine is 900 kg, weight of towers ranges from 1,500 kg to 5,300 kg depending on height, nearest dealer is in Weedsport, NY)
Cut-in Wind Speed:	3.5 m/s (5.6 mph)
Cut-out Wind Speed:	25 m/s (56 mph)
Survival Wind Speed:	52.5 m/s (117 mph)
Breaks/Safety:	Temperature range of -20 degrees C to 50 degrees C, 20 year design life with yearly servicing, passive stalling of blades to limit output, mechanical breaks activated if winds over 25 m/s, abnormal vibrations detected, or disconnected from grid, third brakes at rotor tips as fail-safe,
Towers:	Guyed lattice: 15 m & 18 m. Freestanding: 18m & 27 m
Other Models:	None
Warranty:	Variable

Power Data:

AWEA Rated Power @ 11m/s: 11kW

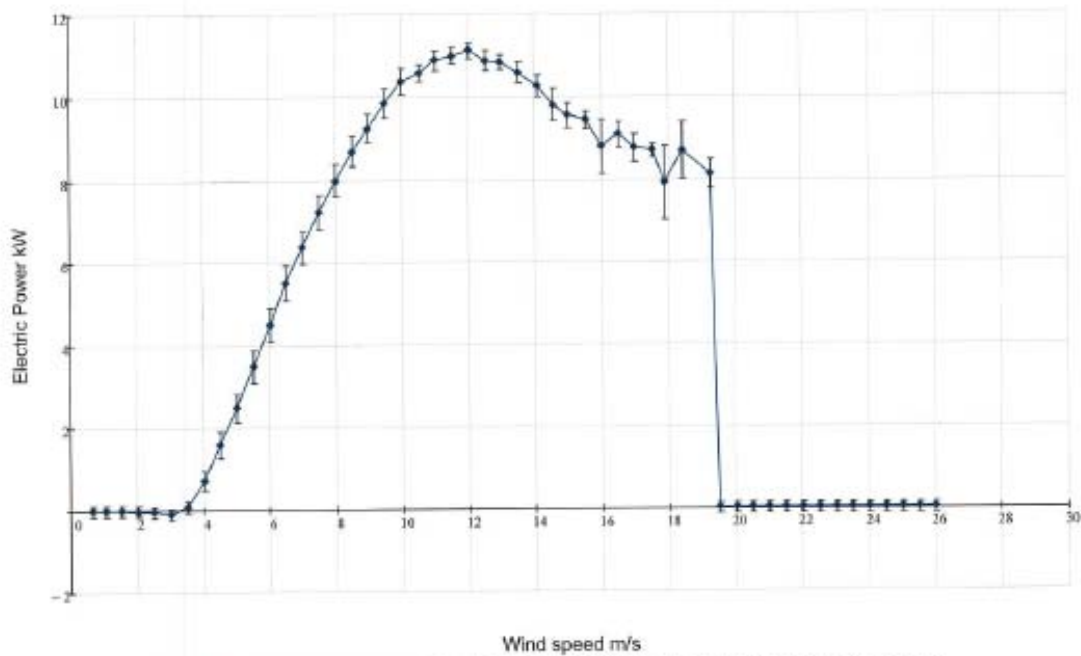


FIGURE 11 MEASURED POWER CURVE BASED ON BIN-AVERAGED RESULTS (DATABASE B)

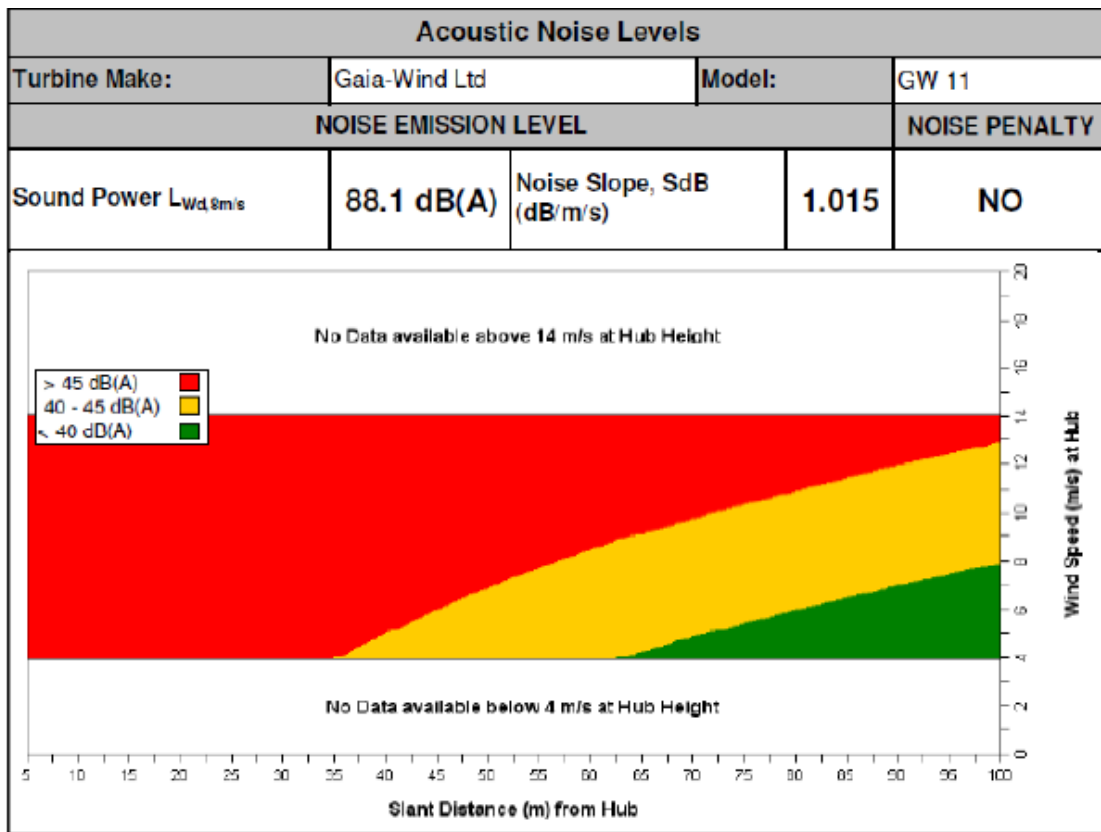
AWEA Rated Annual Energy @ 5m/s: 27,502 kWh

Estimated Annual Energy Production (database B) Reference Air density: 1.225 kg/m ³ Cut-out windspeed: 25 m/s (extrapolation by constant power from last bin)				
Hub height annual average wind speed (Rayleigh) m/s	AEP-measured (measured power curve) kWh	Standard uncertainty in AEP kWh	Standard uncertainty in AEP %	AEP- extrapolated (extrapolated power curve) kWh
4	16220	2069	12.8	16220
5	27502	2345	8.5	27502
6	37959	2471	6.5	37959
7	46527	2519	5.4	46527
8	52783	2537	4.8	52783
9	56709	2541	4.5	56709
10	58567	2529	4.3	58567
11	58764	2498	4.3	58764

Noise Data:

BWEA Reference Sound Level at 25m at an 8 m/s hub wind speed: 52.1 dB

BWEA Reference Sound Level at 60m at an 8m/s hub wind speed: 44.6 dB



Sources: <http://www.cleanenergystates.org/assets/2012-Files/ITAC/Summary-Reports/Gaia133summaryMCS.pdf>
<http://www.gaia-wind.com/>

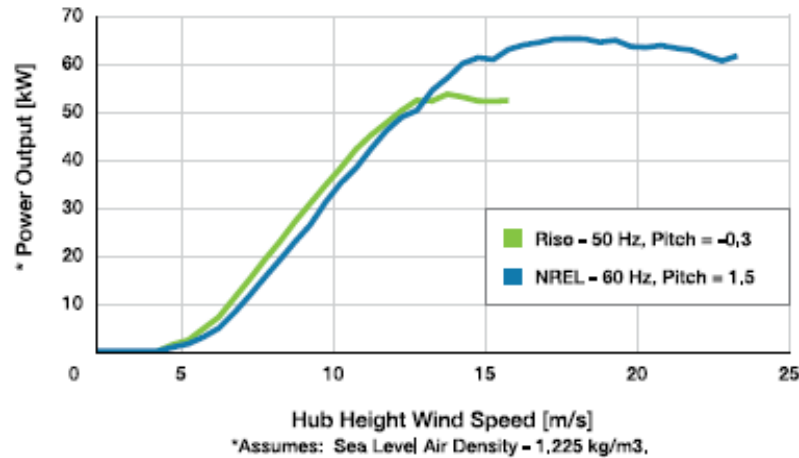
V. Seaforth AOC 15-50:



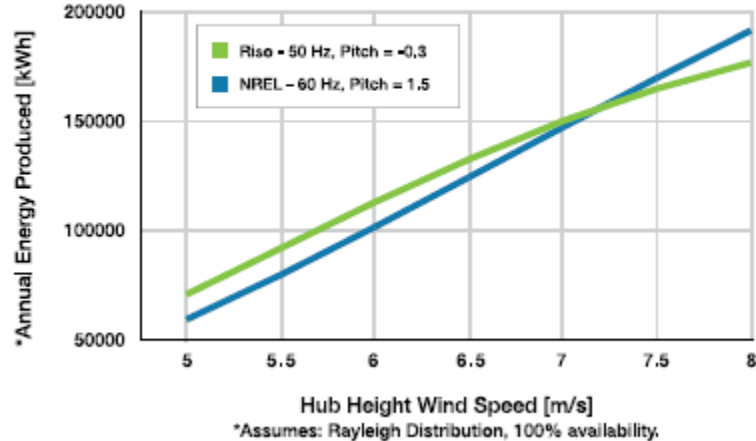
Manufacturer:	Seaforth Energy (11 Acadia Street. Dartmouth, Nova Scotia, CAN)
Description:	3-blade, horizontal axis turbine, downwind, grid connected, 15 m rotor, fixed pitch, 7.2 m blades, swept area of 177 m ² , 62-65 rpm, free to turn with wind, total weight of 33,500 lbs, design life of 30 years
Cut-in Wind Speed:	4.9 m/s (11mph)
Cut-out Wind Speed:	22.4 m/s (50 mph)
Survival Wind Speed:	59.5 m/s (133 mph)
Brakes/Safety:	Aerodynamic brakes on tips of each blade, electrodynamic brake of two-staged resistor and capacitor, mechanical brake
Towers:	Guyed lattice or monopole, 80-140 ft (typically 100-120 ft), optional tilt-up towers
Other Models:	None
Warranty:	3 years

Power Data:

AWEA Rated Power: 50 kW @ 11.3 m/s

POWER CURVES

Estimated Annual Energy:

ANNUAL ENERGY OUTPUT

Noise Data: None yet available. Turbine is in the process of being certified

Sources:

<http://seaforthenergy.com/wp-content/uploads/2010/12/AOC1550-Specification-Sheet.pdf>
<http://seaforthenergy.com/aoc-1550/specifications/>

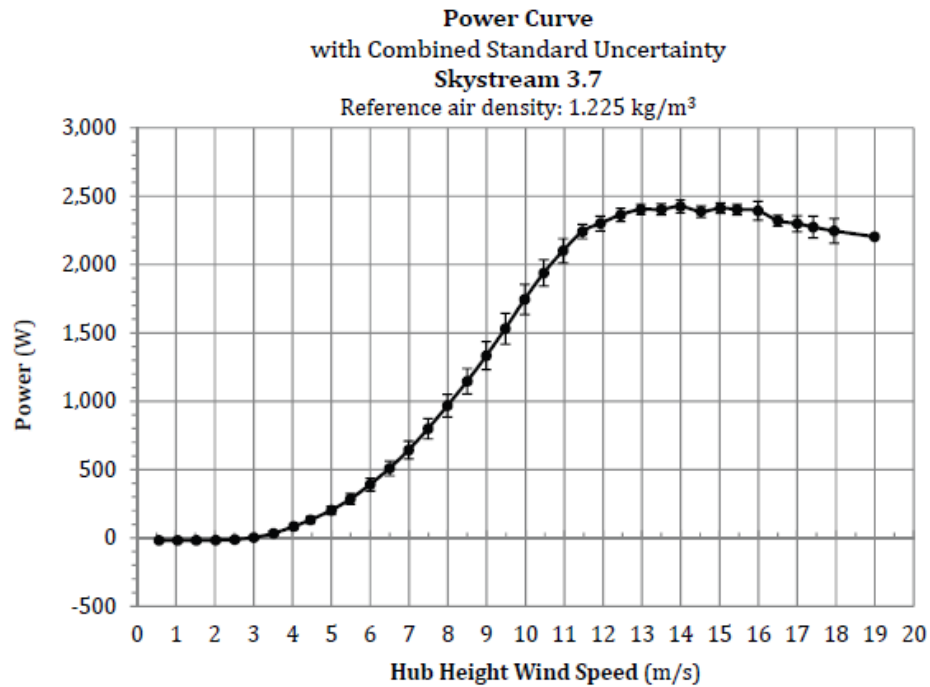
VI. Southwest Windpower Skystream 3.7:



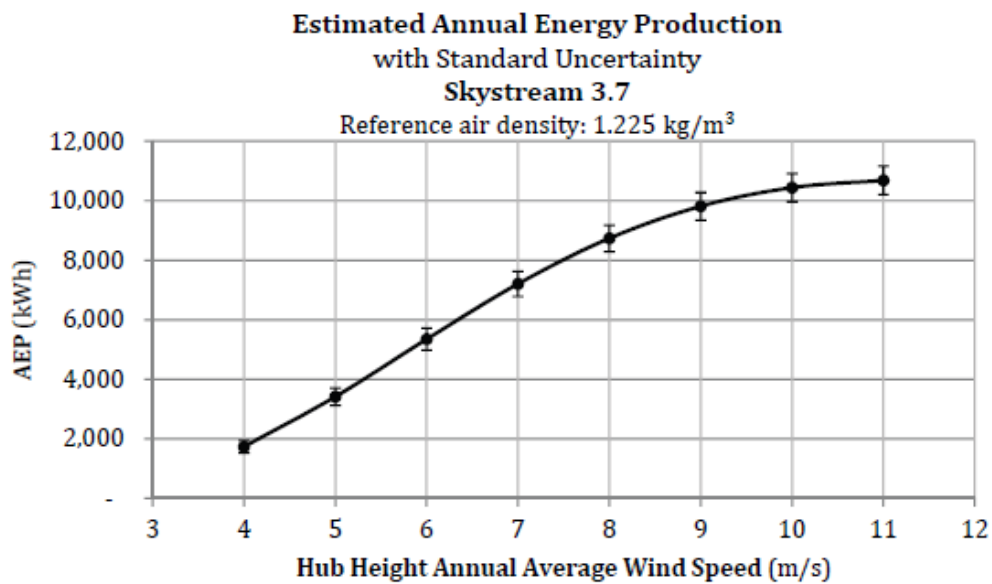
Manufacturer:	Southwest Windpower (100 Technology Drive, Suite 325 Broomfield, CO)
Description:	3-blade, downwind, horizontal axis turbine, swept area of 10.9 m^2 (115.7 ft^2), wireless monitoring software, weights 170 lbs, 3.7 m (12 ft) rotor diameter, 50-330 rpm, maximum tip speed of 66 m/s (216.5 ft./s), available for shipment to Rochester area
Cut-in Wind Speed:	3 m/s (6.7 mph)
Cut-out Wind Speed:	Not stated
Survival Wind Speed:	63 m/s (140mph)
Brakes/Safety:	Electronic stalling regulation with switch control
Towers:	
Other Models:	Skystream Hybrid 6 (wind turbine with solar panels at bottom)
Warranty:	5 years

Power Data:

BWEA Rated Power:	2.1 kW at 11 m/s
Nominal Power:	2.4 kW at 13 m/s



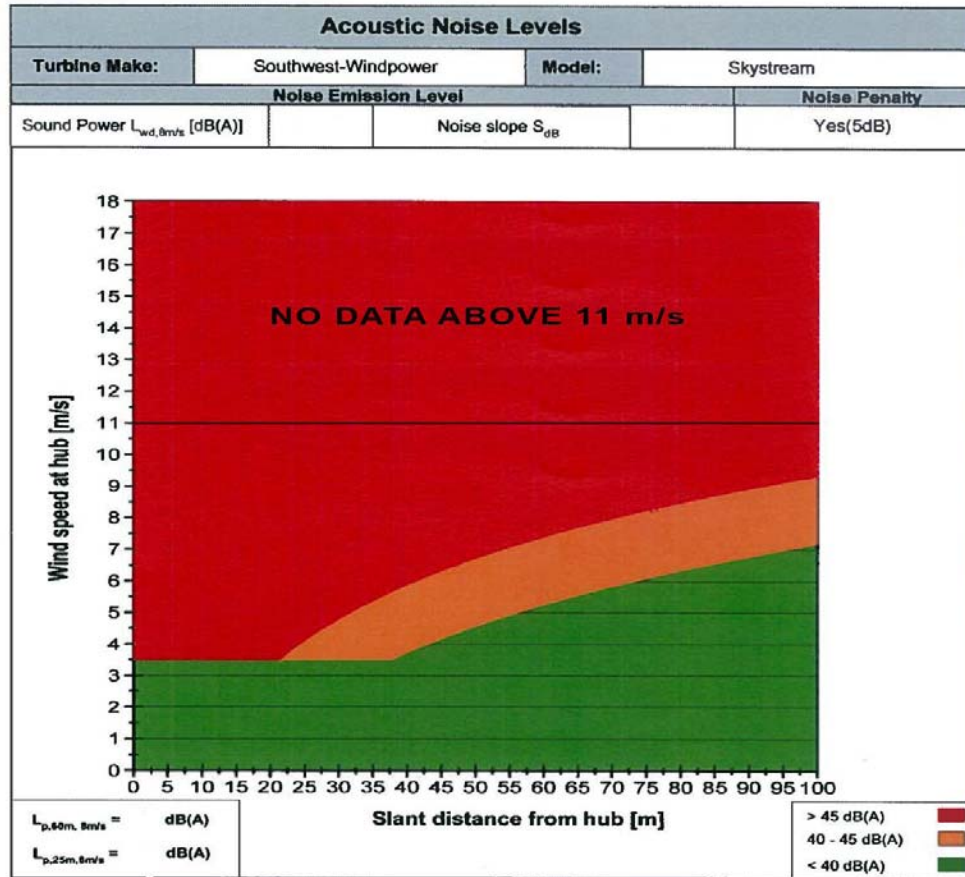
BWEA Rated Annual Energy: 3,420 kWh at 5m/s



Noise Data:

BWEA Reference Sound Level at 25m at an 8m/s hub wind speed: 53.9 dB

BWEA Reference Sound Level at 60m at an 8m/s hub wind speed: 46.4 dB

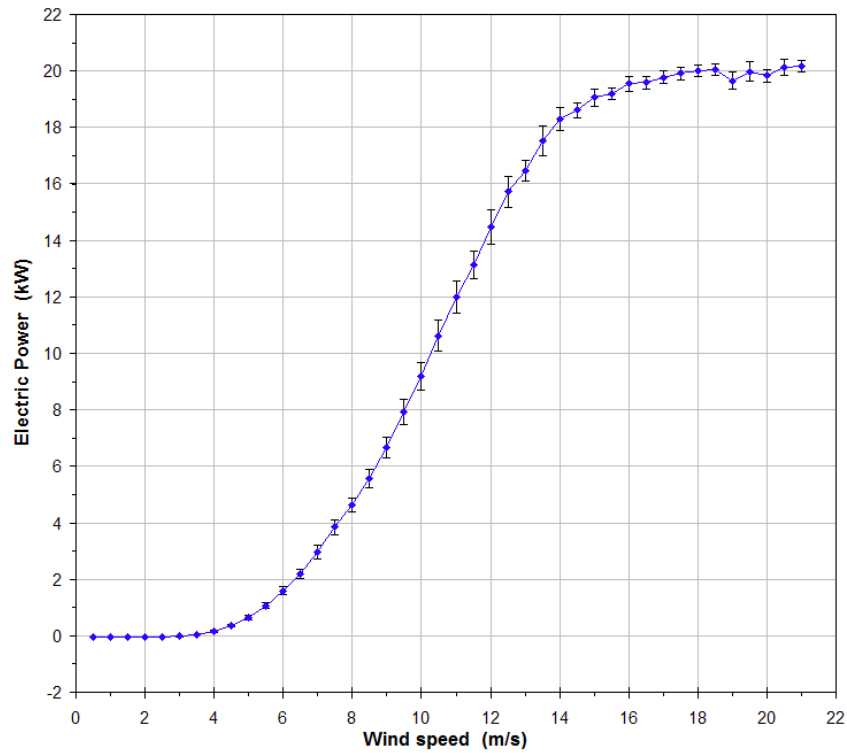


Sources: <http://www.cleanenergystates.org/assets/2012-Files/ITAC/Summary-Reports/skystreamSWCCsummaryreport.pdf>
<http://www.cleanenergystates.org/assets/2012-Files/ITAC/Summary-Reports/SkystreamMCSCertificationSummary.pdf>

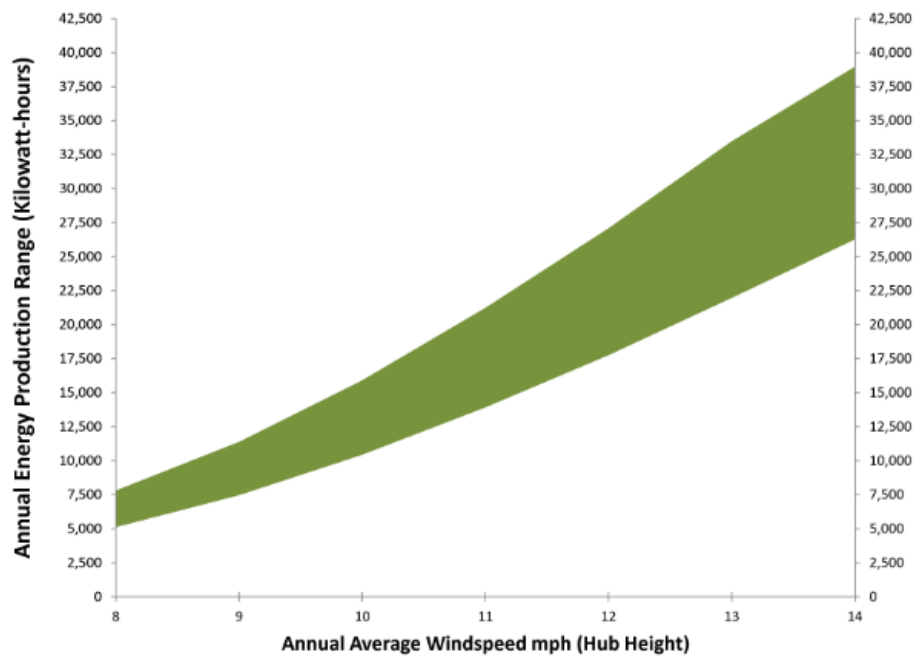
VII. Jacobs 31-20:



Manufacturer:	Wind Turbine Industries Corporation(3933 US Route 11 Cortland, NY 13045)
Description:	3-blade, upwind, horizontal axis turbine, rotor diameter of 9.5 m (31 ft), swept area of 70 m ² , weights 2,500 lbs., operates around 175-185 RPM, ranges in \$63,000- \$93,000 in price depending on tower height and type (installation included), videos of sounds/performance available on website, available in Rochester area from multiple locations
Cut-in Wind Speed:	3.5 m/s (8 mph)
Cut-out Wind Speed:	None
Survival Wind Speed:	53.5 m/s (120 mph)
Brakes/Safety:	Centrifugal variable pitch governor and automatic furling, manual disc brakes
Towers:	Three-legged free-standing lattice or monopole 80ft, 100ft, or 120ft
Other Models:	10 kW and 17.5 kW models
Warranty:	5 years
<u>Power Data:</u>	
Rated Power:	12 kW at 11m/s wind speeds



Estimated Annual Energy Production Range (kWh):



Noise Data:

None yet available, in process of being AWEA certified.

Sources:

<http://www.windturbine.net/performance.htm>
<http://www.cleanenergystates.org/assets/2013-Files/ITAC/WTICpowerperformancetestreportMarch2012.pdf>

VIII. Xzeres 442SR:

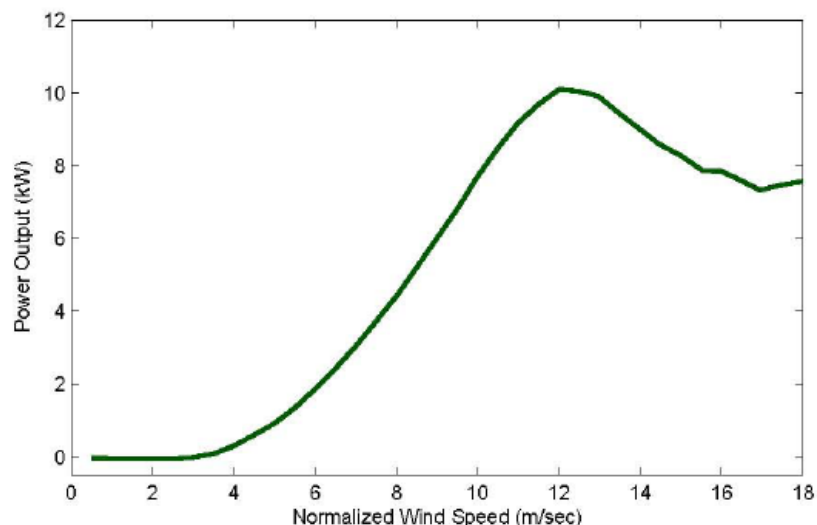


Manufacturer:	Xzeres Wind (9025 SW Hillman Court Suite 3126, Wilsonville, OR)
Description:	3-blade, upwind, horizontal axis turbine, rotor diameter of 7.2 m (23.6 ft), swept area of 41 m ² (442 ft ²), turbine weight of 2300 lbs, 20 year design life, composed of iron and steel, can be shipped to Rochester area
Cut-in Wind Speed:	2.2 m/s (5mph)
Cut-out Wind Speed:	N/A
Survival Wind Speed:	Not stated
Brakes/Safety:	Not stated
Towers:	Monopole, self-supporting lattice, or motorized tilt-able towers.
Other Models:	Xzeres 110
Warranty:	10 years

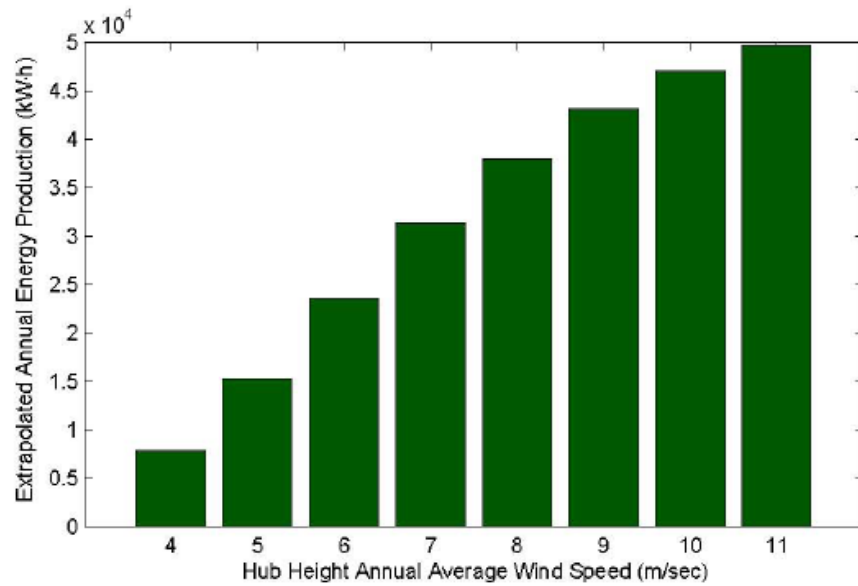
Power Data:

BWEA Rated power: 9.17 kW at 11m/s (25 mph)

Peak Power: 10 kW at 12 m/s (27 mph)

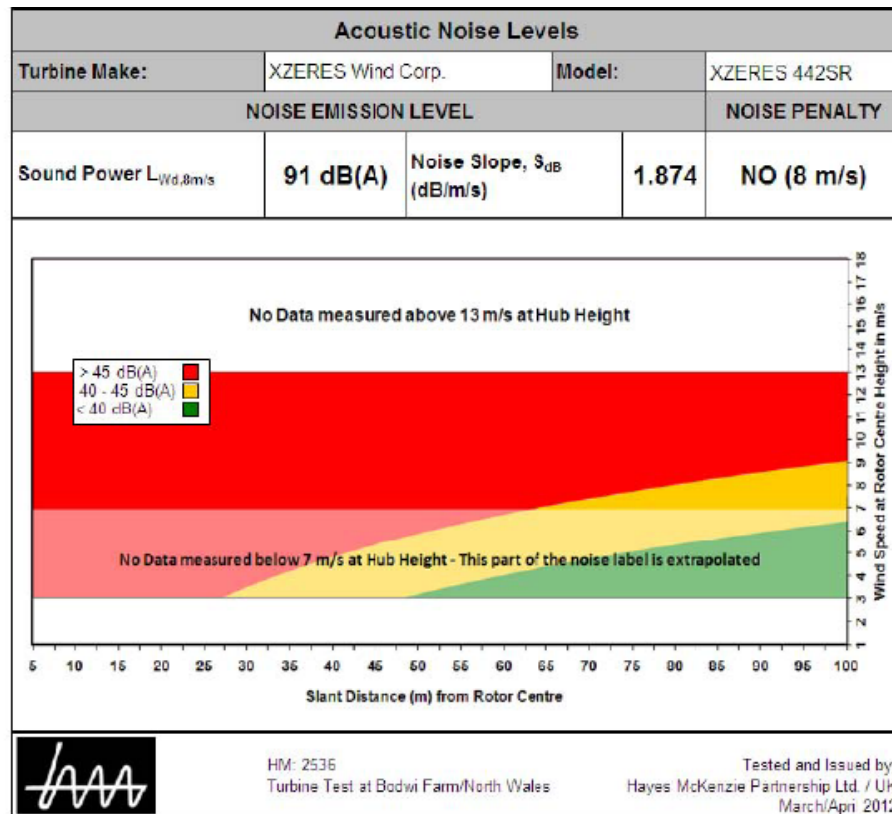


BWEA Estimated Annual Energy Production:



Noise Data:

BWEA Reference 60m Sound Level₃, $L_{p,60m}$: 47.5 dB.

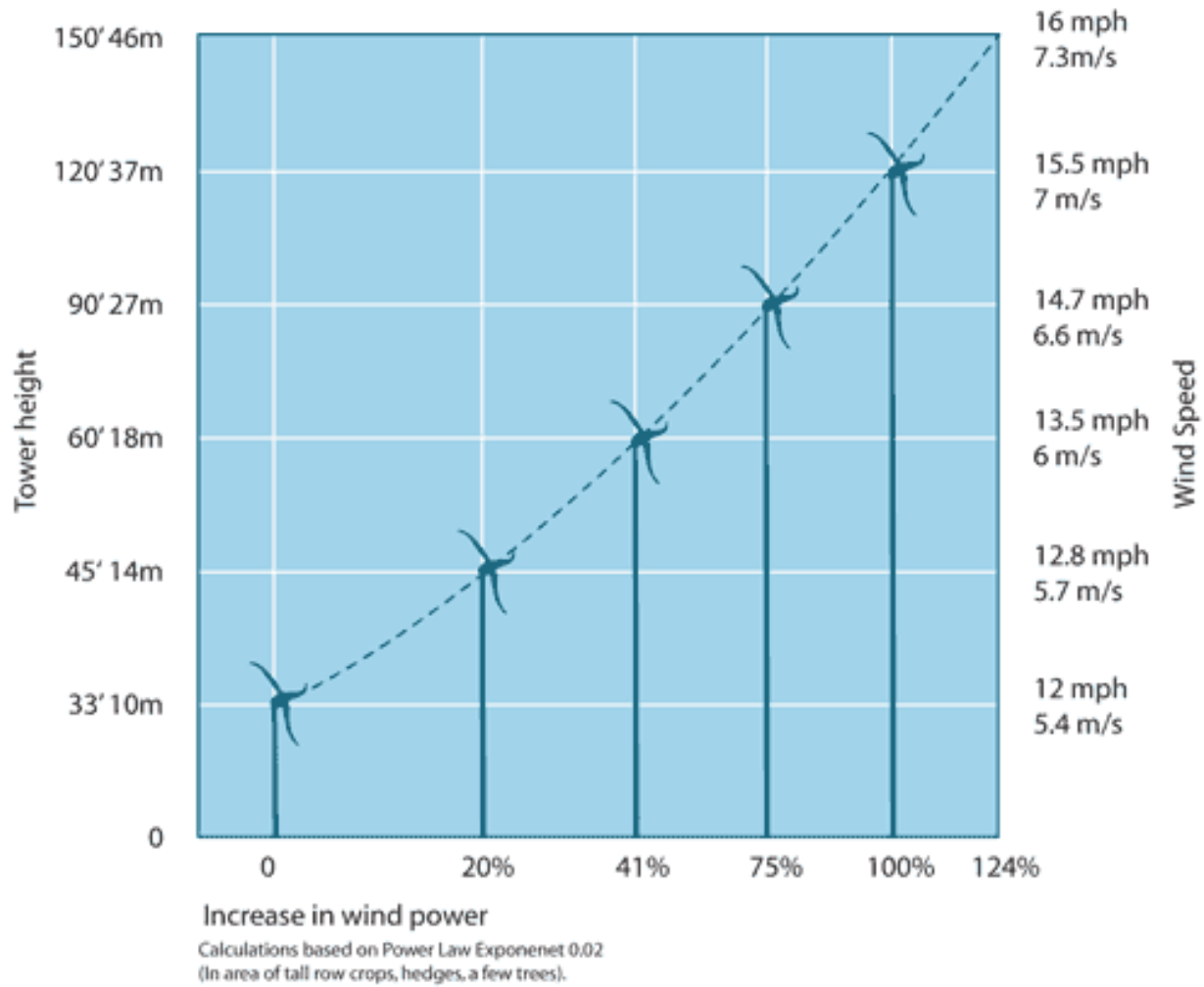


Sources:

<http://www.xzeres.com/wind-turbine-products/xzeres-442sr-small-wind-turbine/>
<http://www.cleanenergystates.org/assets/2012-Files/ITAC/Summary-Reports/Xzeres442SRBWEASummaryreport.pdf>

IV. Other Tools and Resources

i. Wind speed/turbine hub height relation to power output



Source: <http://www.solarwindtek.com/site/windFAQs.shtml>

ii. Decibel levels of common sounds for comparison to turbine sound levels

Environmental Noise	
Weakest sound heard	0dB
Whisper Quiet Library at 6'	30dB
Normal conversation at 3'	60-65dB
Telephone dial tone	80dB
City Traffic (inside car)	85dB
Train whistle at 500', Truck Traffic	90dB
Jackhammer at 50'	95dB
Subway train at 200'	95dB
<i>Level at which sustained exposure may result in hearing loss</i>	<i>90 - 95dB</i>
Hand Drill	98dB
Power mower at 3'	107dB
Snowmobile, Motorcycle	100dB
Power saw at 3'	110dB
Sandblasting, Loud Rock Concert	115dB
<i>Pain begins</i>	<i>125dB</i>
Pneumatic riveter at 4'	125dB
<i>Even short term exposure can cause permanent damage - Loudest recommended exposure <u>WITH</u> hearing protection</i>	<i>140dB</i>
Jet engine at 100'	140dB
12 Gauge Shotgun Blast	165dB
Death of hearing tissue	180dB
Loudest sound possible	194dB

Source: <http://www.gcaudio.com/resources/howtos/loudness.html>

Noise Source	Decibel Level	Decibel Effect
Jet take-off (at 25 meters)	150	Eardrum rupture
Aircraft carrier deck	140	
Military jet aircraft take-off from aircraft carrier with afterburner at 50 ft (130 dB).	130	
Thunderclap, chain saw. Oxygen torch (121 dB).	120	Painful. 32 times as loud as 70 dB.
Steel mill, auto horn at 1 meter. Turbo-fan aircraft at takeoff power at 200 ft (118 dB). Riveting machine (110 dB); live rock music (108 - 114 dB).	110	Average human pain threshold. 16 times as loud as 70 dB.
Jet take-off (at 305 meters), use of outboard motor, power lawn mower, motorcycle, farm tractor, jackhammer, garbage truck. Boeing 707 or DC-8 aircraft at one nautical mile (6080 ft) before landing (106 dB); jet flyover at 1000 feet (103 dB); Bell J-2A helicopter at 100 ft (100 dB).	100	8 times as loud as 70 dB. Serious damage possible in 8 hr exposure
Boeing 737 or DC-9 aircraft at one nautical mile (6080 ft) before landing (97 dB); power mower (96 dB); motorcycle at 25 ft (90 dB). Newspaper press (97 dB).	90	4 times as loud as 70 dB. Likely damage 8 hr exp
Garbage disposal, dishwasher, average factory, freight train (at 15 meters). Car wash at 20 ft (89 dB); propeller plane flyover at 1000 ft (88 dB); diesel truck 40 mph at 50 ft (84 dB); diesel train at 45 mph at 100 ft (83 dB). Food blender (88 dB); milling machine (85 dB); garbage disposal (80 dB).	80	2 times as loud as 70 dB. Possible damage in 8 hr exposure.
Passenger car at 65 mph at 25 ft (77 dB); freeway at 50 ft from pavement edge 10 a.m. (76 dB). Living room music (76 dB); radio or TV-audio, vacuum cleaner (70 dB).	70	Arbitrary base of comparison. Upper 70s are annoyingly loud to some people.
Conversation in restaurant, office, background music, Air conditioning unit at 100 ft	60	Half as loud as 70 dB. Fairly quiet
Quiet suburb, conversation at home. Large electrical transformers at 100 ft	50	One-fourth as loud as 70 dB.
Library, bird calls (44 dB); lowest limit of urban ambient sound	40	One-eighth as loud as 70 dB.
Quiet rural area	30	One-sixteenth as loud as 70 dB. Very Quiet
Whisper, rustling leaves	20	
Breathing	10	Barely audible

[modified from <http://www.wenet.net/~hpb/dblevels.html>] on 2/2000.

SOURCES: Temple University Department of Civil/Environmental Engineering (www.temple.edu/departments/CETP/environ10.html), and Federal Agency Review of Selected Airport Noise Analysis Issues, Federal Interagency Committee on Noise (August 1992). Source of the information is attributed to *Outdoor Noise and the Metropolitan Environment*, M.C. Branch et al., Department of City Planning, City of Los Angeles, 1970.

Alternative Turbine Designs

Emily A. Kraus
Sustainability Oversight Committee
February 6th, 2013

Contents:

- **Vertical Axis Turbines**
 - Basic advantages and disadvantages
 - Examples of designs
 - Windspire
 - Quiet Revolution qr5
 - EddyGT
 - Windterra ECO 1200
 - Patent for Hybrid Vertical Axis Turbine
 - Patent for Vertical multi-phased wind turbine system
 - Patent for Magnetically Levitated Wind Turbine
 - Windstalks
 - List of Vertical Axis Turbine Manufacturers
- **Horizontal Axis Turbines**
 - Examples of non-traditional designs and modifications
 - Whalepower Tubercle Blades
 - Arista Windtamer 4.5
 - EcoWhisper 325
 - Windbelt (Windcell Panels)
- **Airborne Wind Turbines**
 - Basic Advantages and Disadvantages
 - Examples of Designs
 - Makani Airborne Turbine M30
 - Altaeros Airborne Wind Turbine

Vertical Axis Turbines:

Basic Advantages:

- Begin rotating in lower wind speeds than traditional horizontal axis turbines
- Generally quieter with lower rotations-per-minute
- Wind direction changes do not affect performance and are harnessed
- Generators can be located on the ground rather than in the air for easier access, maintenance, and repair
- Can be placed more closely together in wind farms than traditional horizontal axis turbines

Basic Disadvantages:

- Higher failure rate due to more complex structural elements
- Lower efficiency than traditional horizontal axis turbines
- More expensive (newer technology)

Design Examples of Vertical Axis Turbines:

A. Windspire (Standard Unit 1.2 kW)



Manufacturer:	Windspire Energy Inc.
Description:	Vertical-axis turbine, 9.1 m (30 ft) tall, 4 ft diameter, weights 624 lbs, swept area of 7.43 m^2 (80 ft^2), currently available in U.S., dealer in Tonawanda, NY, MSRP of \$4,995 (with installation, additional \$1,000-\$3,000), can be placed close to homes and businesses
Cut-in Wind Speed:	3.8 m/s (8.5 mph)
Survival Wind Speed:	47 m/s (105 mph)
Breaks/Safety:	
Towers:	Monopole, extensions available in 5, 10, 15, and 20 ft heights
Other models:	Model available for extreme winds

Warranty: 5 years

Power Data:

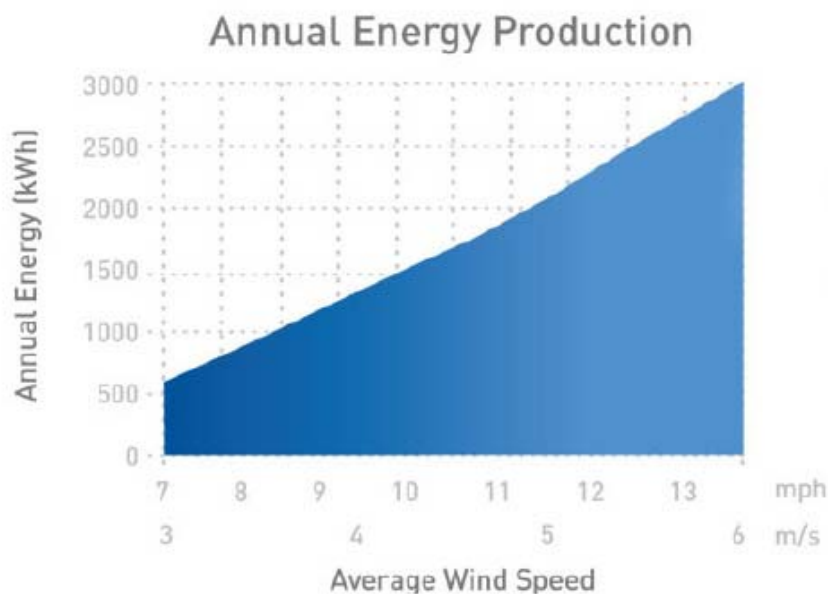
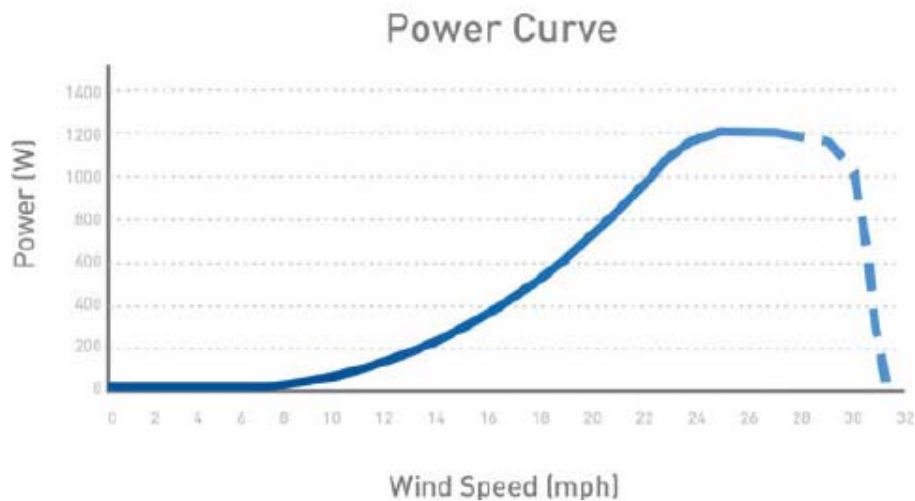
Rated Power: 1.2 kW at 11m/s (24.6 mph)

Annual Energy Production: 2000 kWh/yr at 5 m/s (11.2 mph)

Noise Data:

Sound Output: 6 dB above background in 15 mph wind, 6 ft away

Sources: <http://windspireenergy.com/wp-content/uploads/WindspireSpecSheet.pdf>
<http://www.windspireenergy.com/windspire/>



B. Quiet Revolution qr5:



Manufacturer:	Quiet Revolution Ltd. (London, UK)
Description:	3-blade, vertical-axis, helical design, 5.5 m tall, 3.1 m in diameter, swept area of 16 m ² , designed for urban environments close to people and buildings, reduces noise and vibrations, 25 year design life, weights 450 kg, can be located as close as 10 meters apart, captures winds from all directions, no evidence of bird strikes, certified in UK
Cut-in Wind Speed:	5m/s
Cut-out Wind Speed:	26m/s
Breaks/Safety:	Automatically shuts-down in winds above 26m/s, regulated power generation above 13.5 m/s winds
Towers:	6m tower for roof mounts, 15m or 18m tower for ground mounts
Warranty:	2 years

Power Data:

Projected Peak Power:	6.5kW- 8.5 kW at 16m/s
Annual Energy Yield:	4197 kWh at 5m/s (BWEA), projected up to 7500 kWh at 7m/s

Source: <http://www.quietrevolution.com/qr5/qr5-turbine.htm>

C. EddyGT :



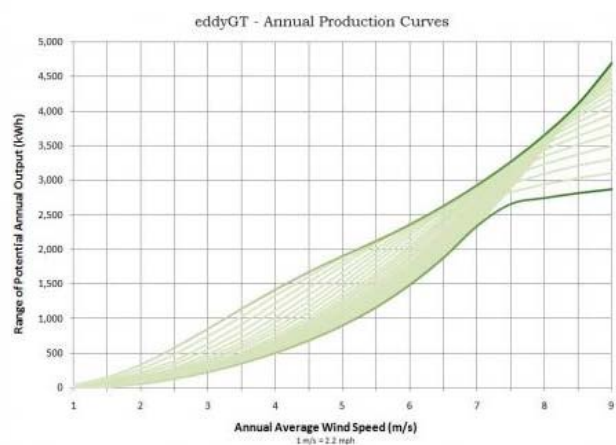
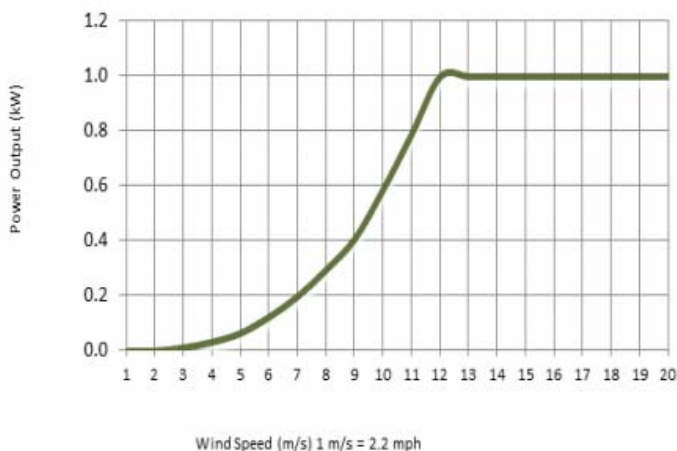
Manufacturer: Urban Green Energy Inc.
Description: 3-blade, vertical-axis, helical design, 2.7 m (9 ft) tall, 1.8 m (6ft) width, swept area of 4.62m^2 (50ft^2), designed for urban environments close to people and buildings, reduces noise via low RPM (rated 180), weights 175kg (386 lbs), easy assembly, grid-compatible or battery backup compatible, available in Rochester (units installed at RIT)

Cut-in Wind Speed: 3.5m/s (7.8mph)
Cut-out Wind Speed: 30m/s (67mph)

Power Data:
Projected Power: 1 kW at 12 m/s (26 mph)
Annual Energy Yield: 1750kWh/yr at 5.5 m/s winds

Sound Data:
Sound level at 12m/s winds: <38 dB

Source: <http://www.urbangreenenergy.com/products/eddygt>



D. Windterra ECO 1200



Manufacturer: Windterra System Inc. (Calgary, CAN)

Description: (Turbine is currently unavailable on the market as company is being liquidated and sold.) 3 blade, vertical axis, roof mounted wind turbine, 2.25 m tall, 2.66 m in diameter, weighs 292 kg (644 lbs), operates in temperatures from -40 to 122 degrees Fahrenheit, adjustable mounting, indoor electrical control panel, ideal for suburban or rural areas where trees or buildings may obstruct airflows, rotates at 190 RPM in normal operation, lower noise levels from lower RPMs, low maintenance,

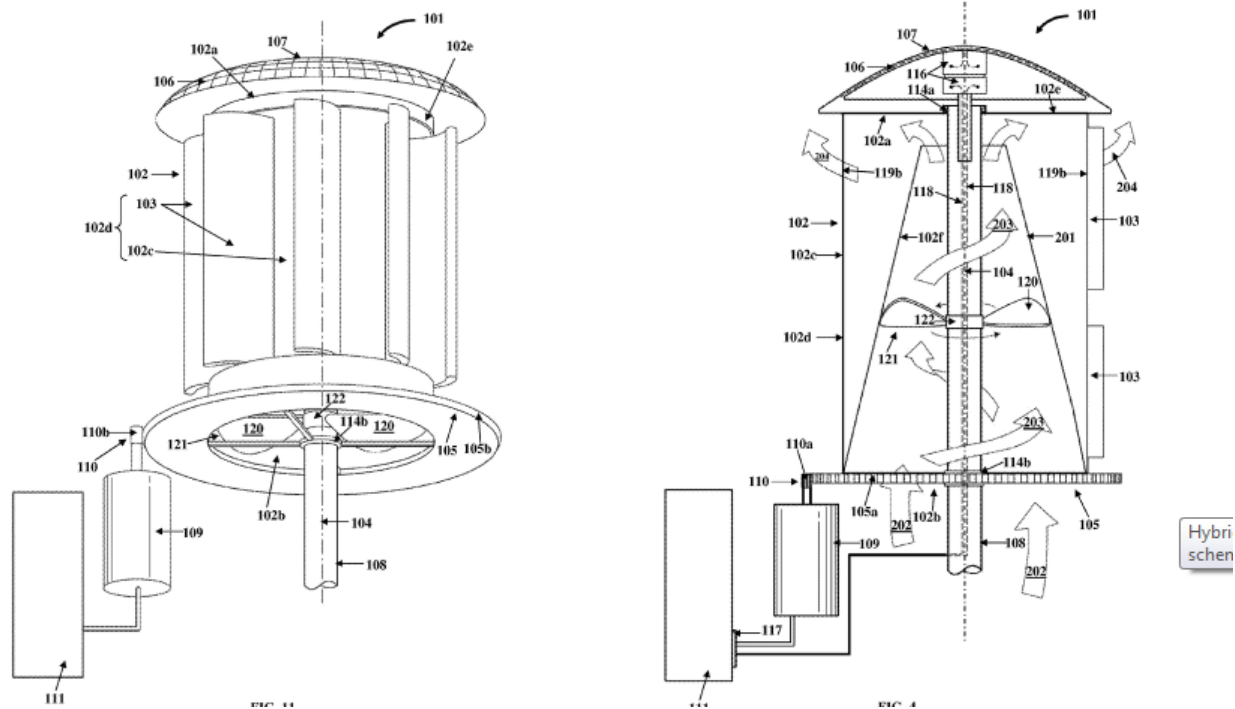
Towers: None

Power Data:

Rated Peak Power: 1.2 kW in 12 m/s (27 mph) winds

Source: http://www.windterra.com/Windterra%20V5_files/Page537.htm

E. Patent application: Hybrid Vertical Axis Energy Apparatus



Inventors: William Edward Lee (Kailua, HI, US) Robert F. Pienkowski (Chicago, IL, US)

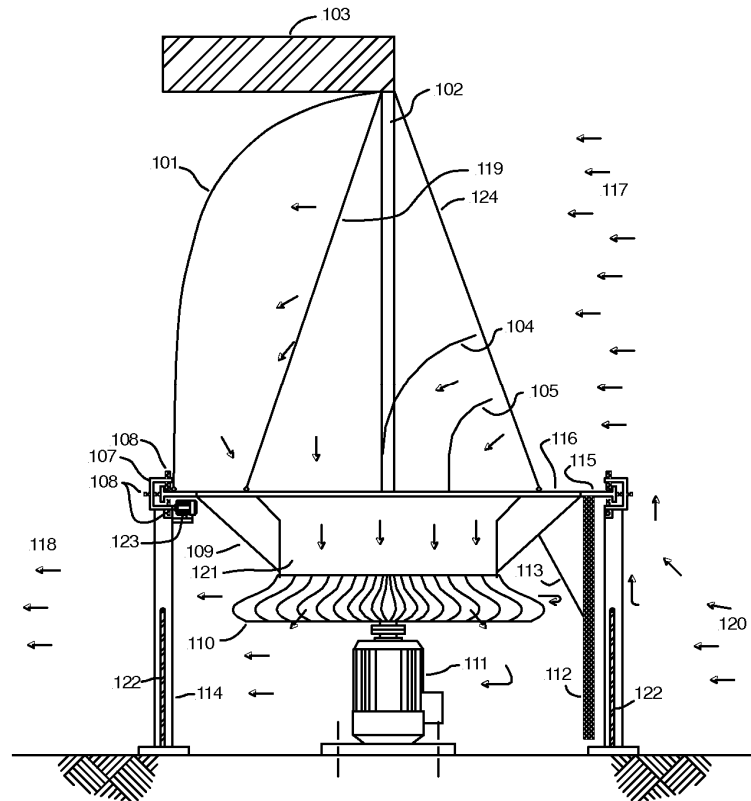
Publication date: 2011-09-08

Patent application number: 20110215583

Description: This vertical axis turbine can capture winds from any direction with multiple curved vertical blades, as well as capture “a force of thermal updraft of airflow” from beneath the housing assembly, using two horizontal blades, to generate electricity. A solar device (photovoltaic cell) is attached at the top of the stationary turbine housing and also generates electricity in conjunction with the wind power.

Source: <http://www.faqs.org/patents/app/20110215583>

F. Patent Application: Vertical multi-phased wind turbine system



Inventor: Brett C Krippene

Publication Date: Nov, 15, 2012

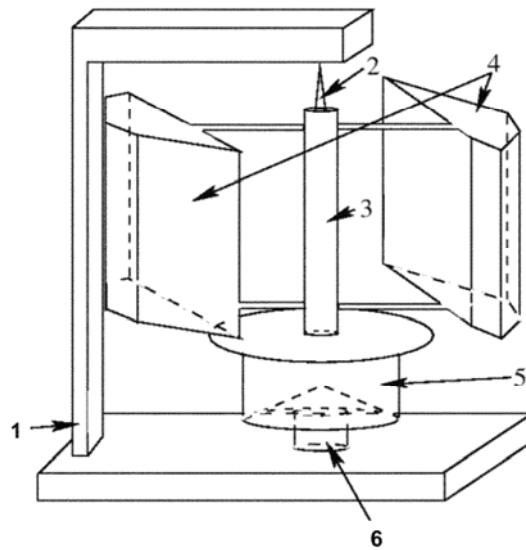
Patent Application number: US20120288357 A1

Description: A vertical-axis wind turbine for power generation. Air from the prevailing wind is directed through the device (as indicated by arrows in the above picture) to capture more wind energy. Once entering the apparatus, the wind is directed downward and out the bottom of the device.

Source:

http://www.google.com/patents/US20120288357?dq=novel+small+wind+turbine+2012&hl=en&sa=X&ei=0R3_UMT_OdTq0QG1zYDoBA&sqi=2&pf=1&ved=0CDkQ6AEwAg

G. Patent application: Magnetically levitated wind turbine



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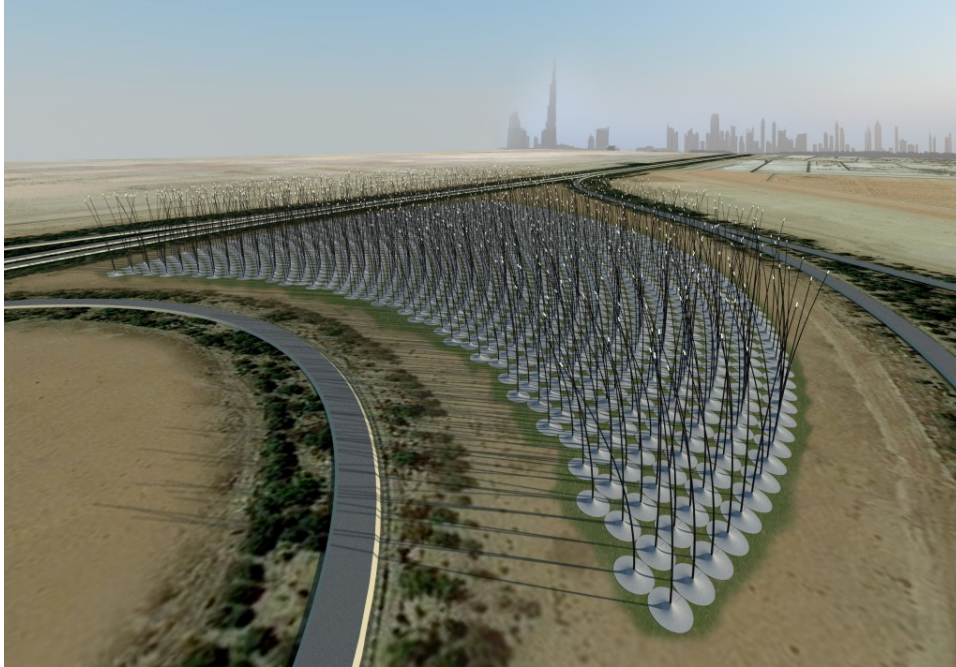
Inventor: Sanza T. Kazadi
Publication Date: Dec 25, 2012
Patent application number: US8338976 B2

Description: A vertical axis type wind turbine utilizing magnetic levitation to greatly decrease friction of blades and mechanical parts during rotation. The turbine has a rigid stationary support structure [1] for the magnetically levitated axle [2,3,5,6] and payload [4].

Source:

<http://www.google.com/patents/US8338976?dq=novel+wind+turbine&hl=en&sa=X&ei=6RrUMW-A-HU0gH-moDgDw&ved=0CDMQ6AEwAA>

H. Windstalks



Manufacturer: Atelier DNA

Description: Intended as a land-art project concept, windstalks supposedly generate electricity through stacks of piezoelectric ceramic discs within each stalk. Between the discs are electrodes connected by cables. Wind sways the poles, causing the disc stack to compress and generate a current through the electrodes. These stalks have not yet been produced or tested, and seem uneconomical in their current state, however, such technology cannot be discounted as unviable for the future.

Source: <http://atelierdna.com/masdarwindstalk/>

List of Manufacturers of Vertical Axis Wind Turbines:

Blackhawk Project LLC - <http://www.blackhawkproject.com/>
Ettridge Wind Ltd. - <http://www.ettridgewindturbine.com/>
Eurowind - <http://www.eurowindholding.com/>
Global Wind Group Inc. - <http://www.globalwindgroup.com/>
Harvistor - <http://www.harvistor.ca/>
Mass Megawatts Wind Power - <http://www.massmegawatts.com/>
Neo-Aerodynamic Ltd. - <http://www.neo-aerodynamic.com/default.html>
McCamley Ltd. - <http://www.mccamley.com/>
Quiet Revolution Ltd. - <http://www.quietrevolution.com/>
Ropatec Vertical Energy - http://www.ropatec.com/index_n.php?pid=01&lin=3
Sauer Energy - <http://www.sauerenergy.com/>
SAWT - <http://www.sawt.com.cn/index.html>
Solwind Energy Ltd. - <http://solwindenergyltd.com/>
Tangarie Alternative Power - <http://www.tangarie.com/>
TESNIC Inc. - <http://www.tesnic.com/>
TMA Global Wind Energy Systems - <http://tmawind.com/>
Urban Green Energy Inc. - <http://www.urbangreenenergy.com/>
Venger Wind - <http://www.vengerwind.com/>
Wind Harvest International - <http://www.windharvest.com/>
Windspire Energy Inc. - <http://www.windspireenergy.com/>
Windterra - <http://www.windterra.com/>

Sources:

For advantages, disadvantages, and company list of vertical axis turbines:

Directory: Vertical Axis Wind Turbines at

http://peswiki.com/index.php/Directory:Vertical_Axis_Wind_Turbines#Overviews

Horizontal Axis Turbines:

Examples of Designs and Modifications:

A. WhalePower Tubercle Blades



Manufacturer: Whalepower

Description: Inspired by the biomechanics of whale flippers; ridges on the leading edges of the blades, called tubercles, allow the stall angle of airfoils to be increased (up to 31 degrees) and always stall the blades gradually instead of quickly. The inventors assert that these tubercles allow increased reliability and performance when winds fall, decreases in noise caused by blades tips when they stall, and increases in performance in turbulent air. Currently, tubercle technology is patented and being tested for use with wind turbines. In collaboration with a Canadian company, Envira-North Systems, Whalepower has created more efficient fans with tubercle adjustments and hopes to have tubercle turbine blades on the market in the near future. Not yet available in Rochester area.

Source: <http://www.whalepower.com/drupal/>

B. WindTamer 4.5 GT



Manufacturer: Arista Power (1999 Mt. Read Blvd, Rochester, NY)
Description: Horizontal axis, multi-blade, conical, turbine, rotor diameter of 4.5 ft, swept area of 15.8 ft², 37 ft height, housed blades prevent birds from flying into path of blade tips, silent, rotates easily on pole with slight wind shifts to capture wind from all directions, \$14,000 cost, additional \$8,000 for installation, example at Irondequoit high school.

Cut-in Wind

Speed: 2 m/s (4.5mph)

Breaks/Safety: Housing of blades prevents bird strikes, computer-controlled automatic shut-down in high winds

Towers: Can be mounted on towers about as tall as a flagpole

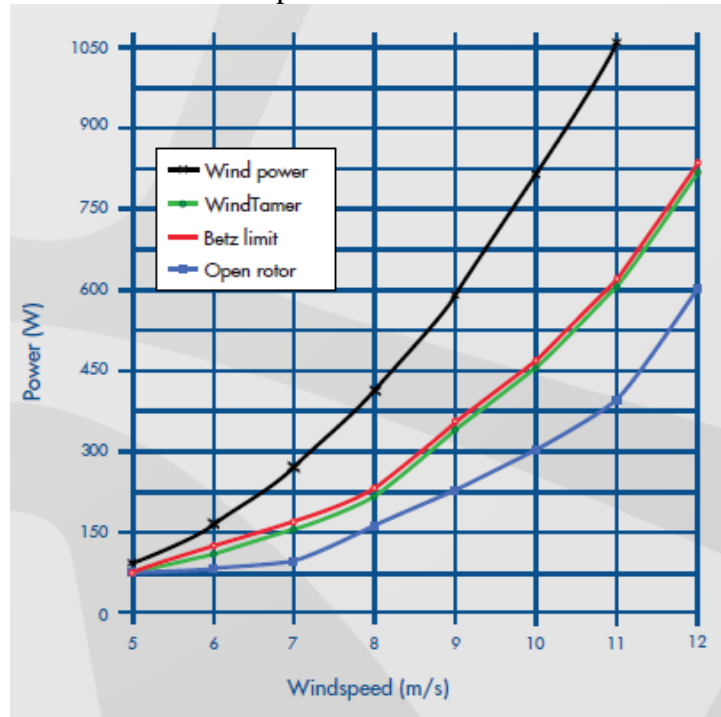
Other models: 8.0 GT

Warranty: 5 years

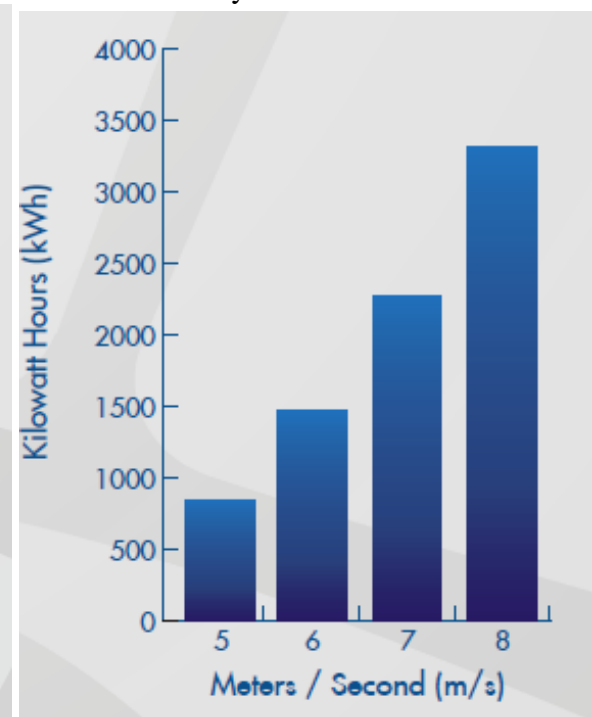
Power Data:

Rated Power: 1.3 kW

Estimated Power output:



Annual kWh/year estimates:



Noise Data:

Sound Output: Site claims <25 dB (silent)

Source: <http://aristapower.com/wind/our-systems/windtamer-4-5-gt/>

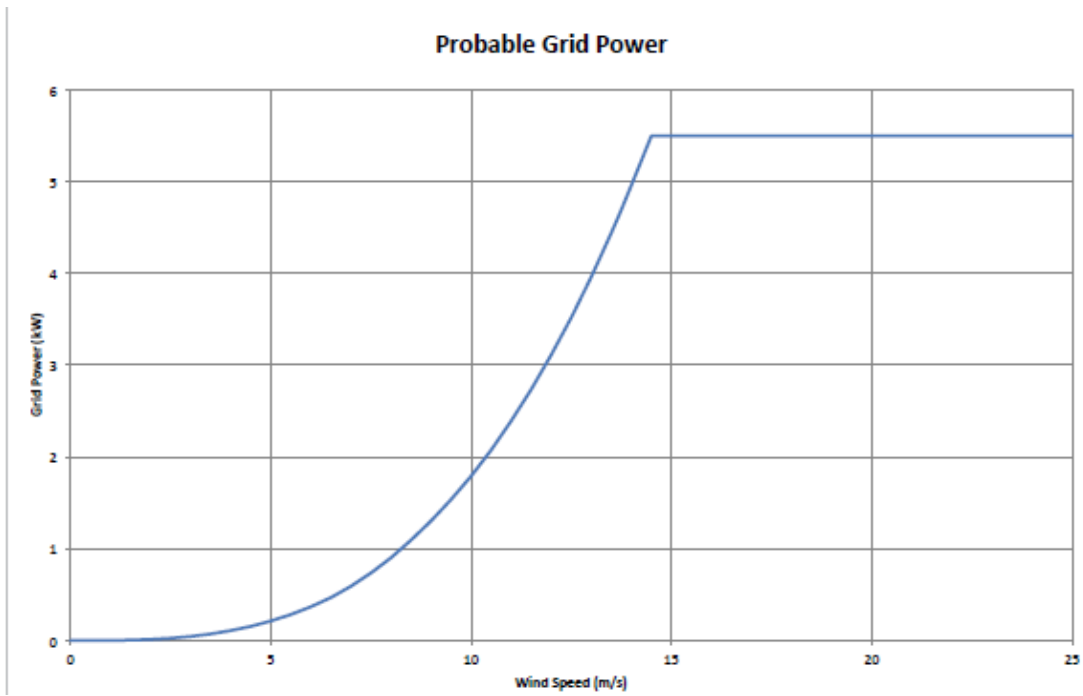
C. Eco Whisper Turbine 325



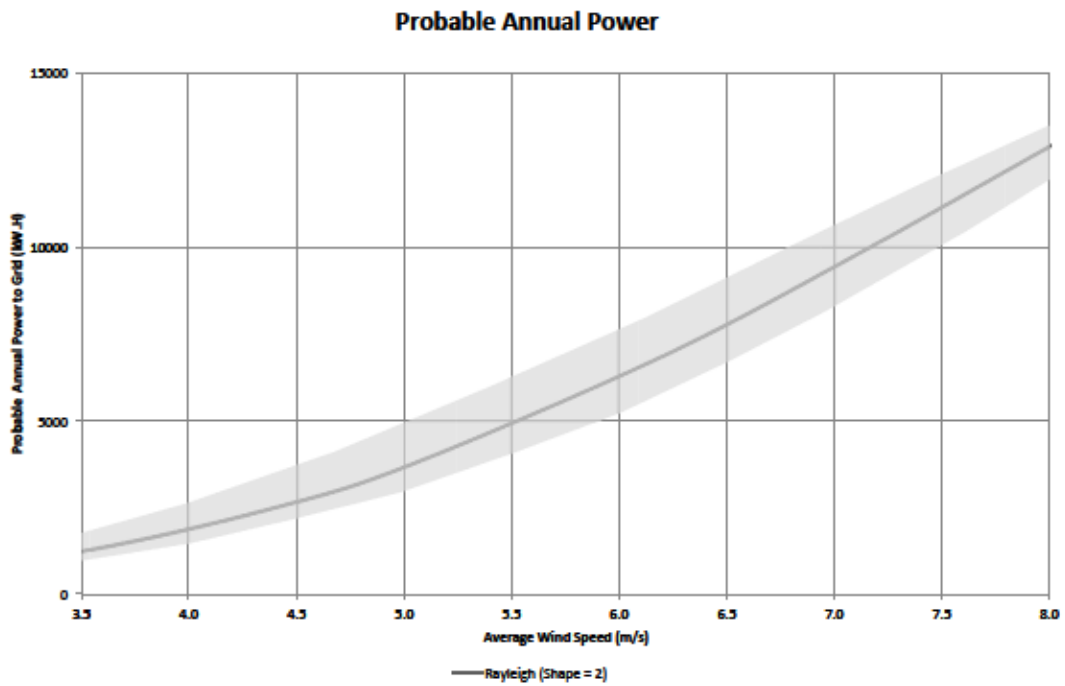
Manufacturer: Renewable Energy Solutions Australia (RESA) Holdings Ltd.
Description: 30 blade, horizontal axis turbine, blades extend outward from central hub at an angle, 3.25 m blade diameter, 19.6 m apparatus height, hydraulic lift pole, claimed to be quietest turbine on market due to blade angles and outer tip ring, solid structure maximizes visibility for birds to avoid., not currently available in U.S.
Cut-in Wind Speed: 1.7 m/s
Cut-out Wind Speed: Not stated
Breaks/Safety: Turbine can be tilted down and stored during high winds and inclement weather.
Towers: Hydraulic tilting towers
Other Models: Eco Whisper 650 (20 kW)

Power Data:

Projected Peak Power: 5 kW



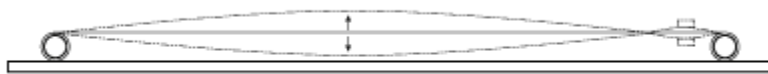
Annual Energy Yield:



Sound Data ; None stated, claimed as “near silent”

Source: http://www.resau.com.au/main/page_ecowhisper.html

D. Windbelt (Windcell Panels)



:: Oscillation profile of one variation of the Windbelt technology.



Manufacturer: Humdinger Wind Energy LLC

Description: Windbelts use aeroelastic flutter (force that destroys bridges in high wind) to capture wind energy in the oscillations of a tensioned membrane. Useful for small electrical needs. A single panel consists of twenty 1m Windbelts and they can be installed similar to fences. Initial estimated production cost of \$0.05/kWh without installation. Windbelts are undergoing testing in several installations around the world.

Other models: MicroBelts are used for powering wireless temperature or light sensors. Works well as a replacement for batteries. Windcells (1 meter in size) is a medium sized generator that can power ocean navigation buoys or lights. Multiple Windcells can be combined for more generating power.

Power Data:

Monthly energy production: 7.2 kWh in 6m/s average wind speed

Noise Data:

Company asserts there is no noise above ambient levels. No data available.

Source: http://www.humdingerwind.com/#/wi_overview/

Airborne Wind Turbines:

Basic Advantages:

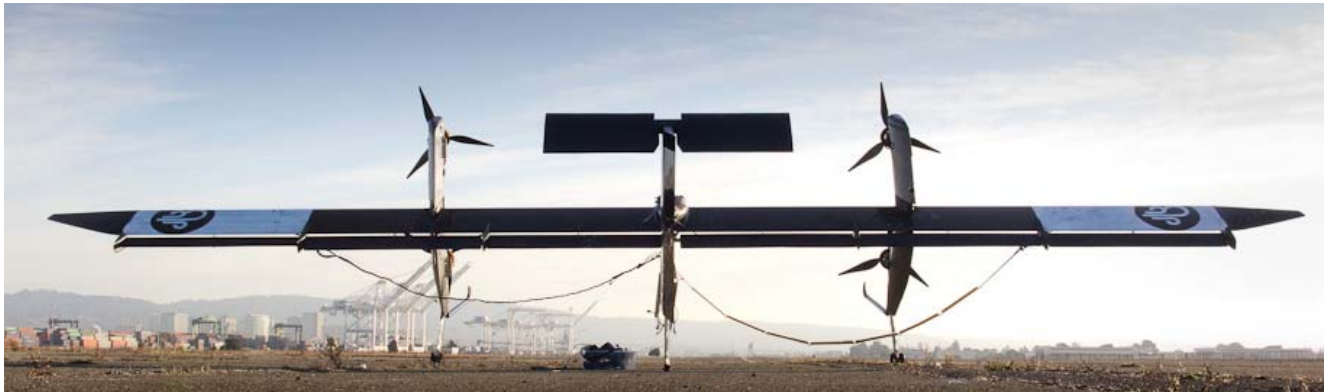
- Can capture a near-constant source of wind
- Can capture higher-altitude, stronger winds
- No expensive tower construction
- Could be placed almost anywhere

Basic Disadvantages:

- Technology is still in R&D phase/more expensive
- Cannot be deployed in inclement or severe weather
- If high enough can interfere with air traffic and may require an air traffic exclusion zone

Examples of Designs:

A. Makani Airborne Turbine M30:



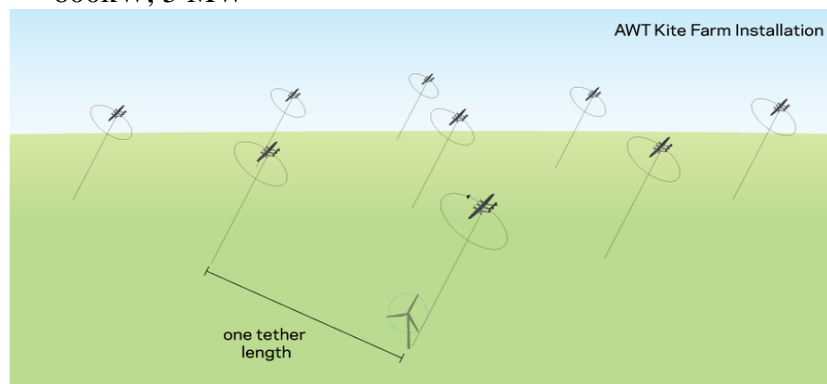
Manufacturer: Makani Power

Description: A 30kW autonomous airborne wind turbine, 3 meters wide by 8 meters long, made of carbon fiber, tethered to ground, “flies” in arcs to capture wind power continuously, operates in altitudes from 40-110 meters high, circling radius of 40m, spaced one tether length apart, more potential for large-scale wind farms, still in research and development phase.

Cut-in Wind

Speed: 10 m/s to begin generating power

Other models: 600kW, 5 MW



Power Data:

Rated Power: 30kW at 11.5 m/s winds

Source: <http://www.makanipower.com/technical-specifications/>

B. Altaeros Airborne Wind Turbine



Manufacturer: Altaeros Energies, Boston MA

Description: A 35-ft diameter, helium filled device connected with a traditional, 3-blade, horizontal axis turbine head in the center. All prototypes are still in the research and development phase. Captures stronger winds at higher altitudes. Can climb to altitudes of 350 ft. and produce two-times the electricity than a standard turbine of similar size. Fully automated take-off, power production, and landing from a towable docking trailer. The company hopes to reach 1,000 ft. altitudes and to deploy the technology for remote village and military uses.

Source: <http://www.altaiosenergies.com/>



Capital Improvement Program Review Letter



Town of Brighton

MONROE COUNTY, NEW YORK

SUSTAINABILITY OVERSIGHT COMMITTEE, SOC

2300 ELMWOOD AVE. * ROCHESTER, NEW YORK 14618 * PHONE (585) 784-5250 * FAX (585) 784-5368

June 21, 2013

Sustainability Oversight Committee
Town of Brighton
2300 Elmwood Ave
Brighton NY 14618

Dear Supervisor Moehle:

The Policy for the Sustainability Oversight Committee indicates that within sixty calendar days of receipt of the Capital Improvement Plan the Committee will submit a written report to the Supervisor. Such report will evaluate the proposed projects and acquisitions in terms of the sustainability objectives of the Town, and make recommendations as to sustainable alternatives to be considered in their design and operation. The SOC received the Capital Improvement Plan on May 31, 2013 and offers the following written comments for your consideration.

- First, the committee would like to thank the Town Board for involving the SOC early in the CIP budget process and providing the SOC with the opportunity to work closely with the Town Budget Committee.
- The heavy equipment industry has been and continues to develop machinery with improved energy efficiencies. Prior to the purchase of heavy equipment by any Department the Town should investigate new technologies such as heavy equipment hybrids and energy recovery systems. This investigation should consider the purchase cost, energy costs, and energy savings over the expected life of the equipment.
- Where applicable heavy equipment purchases should consider the installation of energy-saving power generators that allow workers to use power tools and other equipment without having to keep the engines idling.
- Materials used for resurfacing and treating Town roads, parking areas, and recreation facilities should consider the use of recycled and/or down cycled materials. Additionally, the Town should investigate the availability of recycled alternatives for curbs and gutters.
- The Town should conduct a fleet audit to identify opportunities to reduce the total fleet operating costs and fuel costs. The audit should examine: vehicle use policy, department sharing of vehicles, vehicle acquisitions, vehicle models and makes, fuel economy, vehicle duties, maintenance, matching vehicles with task requirements, and driving habits.
- The purchase of any new utility and pick-up trucks should consider flex fuel or hybrid models.
- In 2011 the Town completed an evaluation of its lawn debris collection process which concluded that use of a truck with a tow behind vacuum trailer is 18% cheaper in costs and competitive in terms of fuel consumption and production, with the current leaf collection program. The SOC supports the transition to the tow behind vacuum process but understands the inefficiency with the purchase of a vehicle the can only be used seasonally. The SOC suggests that the Town investigate leasing a tow behind vacuum trailer in 2014 and evaluate its performance and energy savings to determine if the savings resulting from the use of this equipment outweigh its seasonal use limitations.



- The Town should consider the purchase of route optimization software for snow plowing, debris pick-up and leaf pick-up. Optimization of these routes can reduce energy costs, carbon foot print and vehicle maintenance.
- The CIP includes the annual replacement of storm sewers because of insufficient capacity or poor structural condition. The design of these replacement sewers should consider the increased frequency and intensity of severe storms due to climate change.
- The CIP includes the replacement of all windows in Town Hall. The current windows are made of wood and are original to the building (1950-1970's) and have issues with moisture/rotting. New windows should consider two surface low E argon filled windows.
- The Town should conduct an evaluation of the generator requested in the CIP to determine the minimum size, (power) required to meet the Town's emergency requirements.
- The CIP includes an item to mill, tack coat and place asphalt overlay on existing asphalt around landfill building and road to the lower part of the landfill. Is this improvement necessary and can a more sustainable surface be provided that will meet the requirements of the landfill while reducing the impervious footprint of the landfill?
- The CIP includes the replacement of the roof over the operations center's main office. This roof should be replaced with a white roof or other green roof technology.
- The fire marshal vehicle should consider a hybrid and/or fuel efficient SUV. The selection of this vehicle should consider fuel efficiency.
- The CIP suggests that new paving and pavement repairs are planned at the Operation Center. The Town of Brighton Operation Center includes a large amount of impervious area which ultimately drains to Buckland Creek. New paving should consider the use of permeable pavements and green infrastructure to capture and treat the stormwater runoff. The SOC strongly supports the implementation of these green infrastructure practices and encourages the Town Board to consider including these improvements in the CIP item titled, "Paving & Repairs at OPS Center. Additionally, the CIP includes re-surfacing Town owned tennis and basketball courts. Where practical, this project should consider permeable pavement and green infrastructure improvements.
- The CIP suggests that the Town will be designing and installing green infrastructure improvements along Monroe Ave. in 2013 through 2015. The SOC applauds the Town Board for undertaking this sustainable project. The SOC discourages the use of a sprinkler system for watering and strongly encourages the use of heat and drought tolerant native landscaping materials which require minimal maintenance and watering.
- The Town should begin seeking grant opportunities for the expansion of the existing fueling depot to insure that this improvement is funded. Additionally, upgrades to the fuel depot should consider the selection of alternate fuel vehicles and provide flexibility to accommodate new technologies and energy sources.
- Vehicle purchases including heavy duty and light duty equipment should consider sustainable alternatives such as hybrid and/or alternate fuel vehicles. Where possible flex fuel vehicles should be purchased during the timeframe of the plan and should consider alternative biofuels such as E85 that could be available via the fuel depot expansion. This would allow newly purchased vehicles to switch to more environmentally friendly fuels as they become available. For



“administration” vehicles (e.g., Fire Marshal and Police), hybrid vehicles should be considered. For diesel vehicles, on-board vehicle monitoring should be considered to reduce engine-on and idle time along with idle reducing auxiliary power units such as power inverters. Prior to purchasing new vehicles the Town should research the availability and practicality of alternate fuel, hybrid and/or economy fuel vehicles and should consider delaying vehicle purchases until this research is complete. We suggest that price quotes be obtained for hybrid and/or alternative fuel vehicles in addition to price quotes for standard vehicles.

- The CIP includes an item titled, “Town Hall Boiler Replacement”. The replacement boiler should be a high efficiency boiler with an efficiency rating of not less than 98%. Additionally, we are pleased that the Town Board previously considered the practical implementation of a geothermal HVAC system at Town Hall but chose not to pursue this system due to its protracted return on investment. However, with rising energy costs and improved technologies it may be prudent to consider sustainable options such as geothermal heat pumps and enthalpy wheels in the future. Also, HVAC systems addressing humidity control to decrease heating and cooling load requirements should be strongly considered.
- The CIP should include provisions to eliminate sidewalk gaps and other sidewalk improvements that will encourage and facilitate safe pedestrian traffic.
- The building infrastructure projects listed in the CIP should consider high efficiency heating, cooling and electrical systems. The CIP suggests that the Town is considering the replacement of the heat pumps serving the public safety wing. The Town should evaluate the existing heat pump system and explore more efficient modes of heating and cooling. A centralized system could result in energy and maintenance savings. The Town should investigate the availability of NYSERDA funding to complete this evaluation and for the installation of the proposed improvements. It may also be prudent to group building projects to qualify for NYPA funding.
- The CIP suggests that the IT Department is considering the replacement of two servers while the Brighton Memorial Library is considering substantial computers upgrades. The Town may wish to consider the latest “Cloud” technology for off-site storage and data processing versus the purchase of new servers. The Town should investigate “Cloud” technology in lieu of purchasing new department servers.
- We congratulate the Town of Brighton for its commitment to preserve trees and replace those trees that are severely stressed, dying or dead. Has the Town considered developing an area to cultivate replacement trees?

We appreciate the opportunity to comment on the Capital Improvement Plan and if desired we would be glad to discuss these issues in greater detail with Town Board members.

Sincerely,

Sustainability Oversight Committee

Paul Tinkel, chair

Eric William

Rochelle Bell

Steve Kittelberger

Erinn Ryen

Ron Wexler

Shubhangi Gandhi



Incentive Zoning Letter



Town of Brighton

MONROE COUNTY, NEW YORK

SUSTAINABILITY OVERSIGHT COMMITTEE, SOC

2300 ELMWOOD AVE. * ROCHESTER, NEW YORK 14618 * PHONE (585) 784-5250 * FAX (585) 784-5368

February 11, 2013

Supervisor Moehle
Town of Brighton Town Board
2300 Elmwood Ave
Rochester, New York 14618

Re: Incentive Zoning

Dear Supervisor Moehle:

The Town of Brighton Sustainability Committee recommends that the following amenities be considered for inclusion into Chapter 209, Incentive Zoning of the Code of the Town of Brighton.

- Amenity number 2 of Chapter 209, "Passive and active open space and related improvements", should be expanded to consider the creation of natural areas consisting of undeveloped areas of land, such as woodlands, wetlands, and meadows. Natural areas must preserve natural features and open spaces within the Town of Brighton and create a green habitat for wildlife.
- Promote development that implements improvements identified in the Town of Brighton Pedestrian and Bicycle Master Plan. Additionally, amenities should be considered that maximize active and/or public transportation opportunities.
- Construction in accordance with LEED Silver or better Certification.
- Provide funding to promote the Town of Brighton's Tree Town USA designation.
- Redevelopment of Brownfield areas.

Please direct any questions or comments to Michael Guyon.

Respectfully submitted,

Sustainability Oversight Committee
Paul Tinkel, Chairperson
Ron Wexler, Vice-Chair
Erinn Ryen
Stephen Kittelberger
Shubhangi Gandhi
Rochelle Bell
Eric Williams



Faith Temple Property Letter



Town of Brighton

MONROE COUNTY, NEW YORK

SUSTAINABILITY OVERSIGHT COMMITTEE, SOC

2300 ELMWOOD AVE. * ROCHESTER, NEW YORK 14618 * PHONE (585) 784-5250 * FAX (585) 784-5368

May 31, 2013

Supervisor Moehle
Town of Brighton Town Board
2300 Elmwood Ave
Rochester, New York 14618

Re: Faith Village Property

Dear Supervisor Moehle:

It is the understanding of the Sustainability Oversight Committee that the 70 acre parcel currently owned by Faith Temple is no longer being considered for development. The Sustainability Oversight Committee suggests that the Town of Brighton investigate the purchase and preservation of the Faith Temple parcel. The parcel abuts the western boundary of the Town of Brighton's Buckland Park and consists primarily of open meadow. Incorporating this parcel into Buckland Park would be an outstanding opportunity to preserve a green habitat for wildlife and create a passive recreation area for Town residents.

Please direct any questions or comments to Michael Guyon.

Respectfully submitted,

Sustainability Oversight Committee
Paul Tanel, Chairperson
Ron Wexler, Vice-Chair
Erinn Ryen
Stephen Kittelberger
Shubhangi Gandhi
Rochelle Bell
Eric Williams



Winfield Park DEIS Review Letter



Date: September 30, 2013

From: Sustainability Oversight Committee, SOC

To: Town of Brighton Planning Board

Re: Winfield Park Subdivision
DEIS Review Comments

The Sustainability Oversight Committee reviewed the Draft Environmental Impact Statement documents for the above referenced project and offers the following comments:

General:

1. Page 6 indicates that the development will include a recycle/refuse and mail center building to serve the apartment units. The recycle center should be available to the entire community. What types of materials will be recycled, will refunds be provided and will this building be operated as a business?
2. Page 18 includes a bullet which states, "A priority by the project sponsor to create a sustainable community". Will the development conform to the LEED ND Rating system or some other community rating system? The aspects of the project that create a sustainable community should be listed.
3. Page 25 indicates that the added cost of completing a LEED compliant project is an additional 8% of the construction and design costs. Documentation justifying the 8% increase in construction cost due to a LEED certified construction must be provided. Some studies suggest that these costs can be as low as 2%. The cost analyses should consider the long term environmental and operating costs.
4. A natural vegetative buffer from each bank shall be retained adjacent to the Creek to absorb floodwaters, to trap sediments, to protect adjacent fish and wildlife habitats and to protect scenic qualities. This buffer area must be shown on the plans.
5. Page 198 should indicate the LEED certification that will be sought for the two story office buildings.

Transportation:

1. The transportation system serving the project should include specific lanes or lane markings to accommodate bicycle traffic.
2. The apartment building architectural drawings include parking garages. However, Page 188 indicates that parking garages have ultimately not been proposed for this project due to the considerable increase in cost per parking stall versus the traditional pavement parking areas. Documentation should be provided supporting this statement.
3. The DEIS indicates that RGRTA does not feel that the amount of ridership, or lack thereof, would warrant service to the development at this time. Additionally, RGRTA prefers not to enter onto private roads for legal reasons. The SOC anticipate that the ridership may be larger than RGRTA's estimate due to its proximity to the local universities and encourages the applicant to continue to pursue RGRTA to establish a bus stop within the site or along BHTL Road.
4. Page 36 indicates that the development will require 6.4 parking spaces per 1000 square feet of building area. Whereas the Code of the Town of Brighton requires 4 spaces per 1000 square feet. The increased parking request results in a 64% increase in parking and substantially increases the impervious area associated with the project. The amount of parking should be reduced where feasible. Documentation should be provided supporting the request for the additional parking spaces. The applicant may consider land banking parking faces.
5. The Multiversity Concept described in the Town of Brighton's Comprehensive Pedestrian and Bicycle Master Plan recommends a connection to MCC extending a trail from the west side of S. Clinton just south of the canal to the Erie Canalway Trail and ultimately to the ring road of MCC using existing informal trails. This trail would benefit the community by provided a safe alternative bike/pedestrian route to MCC. This trail should be considered during the design and development of the Winfield Park subdivision.
6. The Town of Brighton's Comprehensive Pedestrian and Bicycle Master Plan indicates that the installation of a sidewalk along Brighton Henrietta Town Line Road is a Priority Sidewalk Addition. Sidewalks should be extended along BHTL Road.
7. The parking areas should be designed to encourage pedestrian and bicycle traffic. Bicycle facilities such as bike racks should be provided throughout the development.

8. Page 57 indicates the trail will be located along the northern bank of the existing Creek. We suggest that the trail be moved further to the north and minimize the disturbance to the stream bank. The shared use trail should be a minimum width of 10 feet.
9. Pervious pavements should be considered where applicable such as sidewalks, trails, and driveways.

Lighting:

1. LED light fixtures should be considered. A comparative cost analysis which considers the capital, operation and maintenance costs should be provided before LED light fixtures are rejected.
2. The Heritage Casting fixture shown on the plans appears similar to RG&E's colonial fixture. RG&E's colonial fixture is not fully shielded and not considered dark sky compliant. The proposed lighting, as indicated in the DEIS, should be fully shielded and dark sky compliant.

Stormwater/Grading:

1. Will the site be mass graded? The SOC strongly discourages this approach and suggests that the site be designed to minimize earth disturbance and the stockpiling of soil. All disturbed areas shall be restored per Chapter 66 of the Code of the Town of Brighton, General Permit No. GP-0-10-00 1, latest New York Standards and Specifications for Erosion and Sediment Controls and the latest New York State Stormwater Management Design Manual.
2. The final design of the project should identify and preserve significant trees where feasible.
3. Page 79 indicates that an artesian water table exists that is related to the confined and saturated sand and gravel above the bedrock. This artesian well condition must be addressed. Will the groundwater depths reduce the storage volumes of the stormwater management facility? Will the proposed development lower the existing groundwater depths and how will this affect surrounding properties and wetlands? Are there any active wells within the vicinity of this development that will be affected? Will bedrock be encountered during the construction of the utilities? How will bedrock be disposed?
4. The removal of trees and the clearing of or constructing on any land area is regulated activities within a Woodlot Protection District. Several of the stormwater/green infrastructure improvements are located within the Woodlot Protection District. The existing trees absorb storm water, provide habitat for natural wildlife and are a part of the bird migration route from Canada to the South Americas. The applicant shall preserve as many trees and as much mature

vegetation as possible, including but not limited to the preservation of trees and mature landscaping to screen or obscure from view the proposed development. Additionally, all development within the Woodlot Protection District must comply with ARTICLE XVI, EPOD (2) Woodlot Protection District of the Code of the Town of Brighton.

5. Rainwater harvesting and on-site storage as part of overall design scheme is strongly recommended. Harvested water can be used as a resource for sprinkler systems, etc. on a regular basis.

Miscellaneous:

1. The proposed project includes the construction of large impervious surfaces which cause the immediate area to become warmer than the surrounding land forming an island of higher temperatures known as “heat island effect”. Additional trees of substantial size should be provided within the parking areas to create a canopy large enough to offset the “heat island effect”. In addition, light roof particularly flat roofs and pavement colors, (concrete in lieu of asphalt) should be provided which further reduces this phenomenon.
2. The proposed buildings should consider orientation and spacing to maximize the potential for passive solar heating and shading devices to minimize the cooling load. Photo Voltaic’s for electric should be used particularly on the large flat roof areas. The applicant should contact NYSERDA to investigate funding programs for photo voltaic installations. A claim that the systems are not financially practical must be supported by a financial analysis that includes the savings associated with the NYSERDA funding programs.
3. Regional materials should be used to construct the proposed project. Additionally, a waste reduction plan should be developed whose intent is to divert a minimum of 50% of construction debris from the waste stream.
4. All landscaping material should be indigenous to this area. The SOC discourages the installation of lawn sprinkler systems.
5. The applicant should consider LEED certification for the apartment buildings.



Town Board Meeting Minutes



TOWN OF BRIGHTON
MONROE COUNTY, NEW YORK
SUSTAINABILITY OVERSIGHT COMMITTEE

**SUSTAINABILITY OVERSIGHT COMMITTEE AND TOWN BOARD WORKSHOP
MEETING**

MINUTES

January 22, 2014

5:30 p.m. – 6:30 p.m.

Attendance: William Moehle, Louise Novros, James Vogel, Chris Werner, Jason Deponzio, Paul Tankel, Ron Wexler, Rochelle Belle, Eric Williams, Erinn Ryen, Michael Guyon, Dan Aman, Mike DeClerck

CALL TO ORDER: 5:35 PM

OPEN FORUM:

Mike DeClerck of Waste Management is interested in interacting with the Town to solve issues regarding recycling and waste disposal. Mike discussed the use of solar compactors and their advantages.

DISCUSSION:

The Policy for the Sustainability Oversight Committee, SOC, indicates that a member of the Town Board may be designated by the Supervisor as an ex officio member of the Committee. Chris Werner will be the Town Board liaison and the ex officio member of the SOC.

The Town Board members expressed that walkability and active transportation are important sustainable issues. The Comprehensive Plan Update will advance the Town's desire to be a more sustainable community. A member of the SOC will be a member of the Comprehensive Plan Update Committee.

The Comprehensive Plan Update, a road map for the Town, will consider sustainability and focus on making Brighton a more sustainable community.

The Capital Improvement Plan recommendations provided by the SOC help the Town Board members review the CIP. The budget process is generally number driven and an economic analysis supporting the SOC's recommendation would be beneficial. A discussion of the economic analysis suggested that this review should consider different alternatives and cost considerations.

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The SOC should continue to review environmentally sensitive projects such as: The Reserve, Winfield Park, U of R South Campus and Clinton Crossings. Generally, the DEIS is referred to the SOC by the Planning Board secretary and the SOC comments are entered into the SEQRA document and addressed by the applicant.

Ideas should be presented to the Town as early as possible. These ideas may initiate a sustainable project. The function and cost of the project must be considered.

The SOC will meet informally with the Town Board annually. In a separate meeting the SOC will meet and present the SOC annual report to the Town Board.

The Monroe Avenue GIGP project was discussed.

THE MEETING ENDED AT 6:30 PM

