

MANISTEE CITY PLANNING COMMISSION

Meeting of Thursday, September 4, 2008

7:00 p.m. -Council Chambers, City Hall, 70 Maple Street,
Manistee, Michigan

AGENDA

I Call to Order

II Roll Call

III Approval of Agenda

At this time the Planing Commission can take action to approve the September 4, 2008 Agenda.

IV Approval of Minutes

At this time Planning Commission can take action to approve the August 7, 2008 meeting Minutes.

V Public Hearing

None

VI New Business

Presentation - Wind Energy

Nathaniel Neider who serves on the Zoning Board of Appeals will be making a presentation to the Commission on Wind Energy. Mr. Neider is working on achieving his Master Citizen Planner Certification.

No formal action is required for this item.

Presentation - Beach Master Plan

At this time a presentation will be given regarding the Beach Master Plan.

No formal action is required for this item.

VII Old Business

None

VIII Public Comments and Communications

At this time the Chair will ask if there are any public comments.

IX Correspondence

At this time the Chair will ask if any correspondence has been received to be read into the record.

X Staff Reports

At this time the Chair will ask Staff for their report.

XI Members Discussion

At this time the Chair will ask members of the Planning Commission if they have any items they want to discuss.

XII Adjournment



MEMORANDUM

TO: Planning Commissioners
FROM: Denise Blakeslee 
DATE: August 28, 2008
RE: September 4, 2008 Meeting

Commissioners, Enclosed is your packet for the September Planning Commission Meeting. We have the following items on the Agenda:

Presentation - Wind Energy

Nathaniel Neider who serves on the Zoning Board of Appeals will be making a presentation to the Commission on Wind Energy. Mr. Neider is working on achieving his Master Citizen Planner Certification.

Presentation - Beach Master Plan

At this time a presentation will be given regarding the Beach Master Plan.

Eric Gustad has been in contact with Ms. McDowell from the EPA to see if she could attend one of our meetings to discuss "Green Communities". At this time we have not received confirmation that she could attend our September Meeting. In the event that she is able to attend we will amend the agenda to allow time for her presentation.

See you Thursday! Please call me if you are unable to attend the meeting.

:djb



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF LABOR & ECONOMIC GROWTH
LANSING

KEITH W. COOLEY
DIRECTOR

3/5/07

Michigan Siting Guidelines for Wind Energy Systems

INTRODUCTION

These guidelines have been developed by the Energy Office, Michigan Dept. of Labor and Economic Growth to assist local governments to develop siting requirements for wind energy systems. These guidelines are not intended to apply in urban areas that already have height, noise, setback and other requirements that can be applied to wind energy systems. These guidelines have been developed with the intention of striking an appropriate balance between the need for clean, renewable energy resources and the necessity to protect the public health, safety, and welfare. The guidelines represent recommended zoning language for local governments to use if they amend their zoning ordinance to address wind energy systems. The Energy Office, DLEG has no authority to issue regulations related to siting wind energy systems.

Electricity generation is responsible for 36% of carbon dioxide pollution, 64% of sulfur dioxide pollution, 26% of nitrogen oxide pollution, and 34% of mercury pollution in the U.S. Electricity generation from clean, renewable energy resources will reduce air pollution, increase the fuel diversity of our electric system, save natural resources, and provide a hedge against increases in the price of fossil fuels used for electric generation.

Different requirements are recommended for On Site Use (generally small) and Utility Grid (generally large) wind energy systems. On Site Use wind energy systems are sized to primarily serve the needs of a home, farm, or small business. Usually there is a single turbine – in contrast to a large, utility-scale wind farm that may include dozens or even hundreds of turbines. Utility Grid wind energy systems are sized to provide power to wholesale or retail customers using the electric utility transmission and distribution grid to transport and deliver the wind generated electricity. On Site Use wind energy systems can have towers up to 40 meters and Utility Grid wind energy systems can have towers up to 90 meters.

The guidelines have been developed with input from members of the Michigan Wind Working Group. The members of the Michigan Wind Working Group have not endorsed these guidelines. Professor Robert Fletcher, Ph.D. and Daniel Alberts, graduate student from Lawrence Technological University helped in the development of these guidelines by providing briefings on technical issues related to siting. Mr. Alberts also helped by conducting a modified Delphi study related to wind energy siting issues. For the Delphi study final report see:

http://www.ltu.edu/engineering/mechanical/delphi_wind.asp .

Comments or questions are welcome and should be directed to John Sarver, Energy Office at 517-241-6280 or jhsarve@michigan.gov.

RECOMMENDED LANGUAGE FOR LOCAL ZONING ORDINANCES

A. Definitions

1. Ambient: Ambient is defined as the sound pressure level exceeded 90% of the time or L_{90} .
2. ANSI: American National Standards Institute.
3. dB(A): The sound pressure level in decibels. Refers to the "a" weighted scale defined by ANSI. A method for weighting the frequency spectrum to mimic the human ear.
4. Decibel: The unit of measure used to express the magnitude of sound pressure and sound intensity.
5. IEC: International Electrotechnical Commission. The IEC is the leading global organization that prepares and publishes international standards for all electrical, electronic and related technologies.
6. ISO: International Organization for Standardization. ISO is a network of the national standards institutes of 156 countries.
7. On Site Use Wind Energy Systems: An On Site Use wind energy system is intended to primarily serve the needs of the consumer.
8. Rotor: An element of a wind energy system that acts as a multi-bladed airfoil assembly, thereby extracting through rotation, kinetic energy directly from the wind.
9. SCADA Tower: A freestanding tower containing instrumentation such as anemometers that is designed to provide present moment wind data for use by the supervisory control and data acquisition (SCADA) system.
10. Shadow Flicker: Alternating changes in light intensity caused by the moving blade of a wind energy system casting shadows on the ground and stationary objects, such as a window at a dwelling.
11. Sound Pressure: Average rate at which sound energy is transmitted through a unit area in a specified direction. The pressure of the sound measured at a receiver.
12. Sound Pressure Level: The sound pressure mapped to a logarithmic scale and reported in decibels (dB).
13. Utility Grid Wind Energy Systems: A Utility Grid wind energy system is designed and built to provide electricity to the electric utility grid.
14. Wind Energy System: A wind energy conversion system which converts wind energy into electricity through the use of a wind turbine generator and includes the turbine, blades, and tower as well as related electrical equipment. This does not include wiring to connect the wind energy system to the grid.
15. Wind Site Assessment: An assessment to determine the wind speeds at a specific site and the feasibility of using that site for construction of a wind energy system.

- B. On Site Use Wind Energy Systems: An On Site Use wind energy system is intended to primarily serve the needs of the consumer. An On Site Use wind energy system with a tower higher than 20 meters shall be considered a Special Land Use. On Site Use wind energy systems with no towers or towers 20 meters or less shall be a Permitted Use in all zoning classifications where structures of any sort are allowed subject to the following requirements. Anemometer towers more than 20 meters in height used to conduct a wind site assessment for possible installation of an On Site Use wind energy system shall also be a Special Land Use.

Prior to the installation of an On Site Use wind energy system with a tower higher than 20 meters, an application for a Special Land Use permit shall be filed with the local government that will include 1) applicant identification, 2) a site plan, 3) documentation that sound pressure level, construction code, tower, interconnection (if applicable), and safety requirements have been met, and 4) proof of the applicant's public liability insurance.

Prior to the installation of an anemometer tower more than 20 meters in height, an application for a Special Land Use permit shall be filed with the local government that will include 1) applicant identification, 2) a site plan, 3) a copy of that portion of the applicant's lease with the land owner granting authority to install the Met tower and requiring the applicant to remove all equipment and restore the site after completion of the wind site assessment and 4) proof of the applicant's public liability insurance.

Commentary: Another way to differentiate between On Site Use and Utility Grid wind energy systems is size of the generators. Early drafts of the siting guidelines made a distinction between a small wind energy system which has a rated capacity of not more than 300 kW and a large wind energy system greater than 300 kW. It was decided that use rather than size was a better way to classify wind energy systems for siting purposes.

1. Property Set-back: The distance between an On Site Use wind energy system and the owner's property lines shall be at least 1 ½ times the height of the wind energy system tower including the top of the blade in its vertical position. The distance between an anemometer tower and the owner's property lines shall be at least 1 ½ times the height of the tower. No part of the wind energy system structure, including guy wire anchors, may extend closer than ten feet to the owner's property lines.

Commentary: The property set-back requirement is designed to protect neighbors in the unlikely event of a tower failure.

2. Sound Pressure Level: On Site Use wind energy systems shall not exceed 55 dB(A) at the property line closest to the wind energy system. This sound pressure level may be exceeded during short-term events such as utility outages and/or severe wind storms. If the ambient sound pressure level exceeds 55 dB(A), the standard shall be ambient dB(A) plus 5 dB(A).

Commentary: Normal conversation is in the range of 50-65 dB(A). There is more commentary under the Utility Grid section of this document.

3. Construction Codes, Towers, & Interconnection Standards: On Site Use wind energy systems including towers shall comply with all applicable state construction and electrical codes and local building permit requirements. On Site Use wind energy systems including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act (Public Act 23 of 1950, MCL 259.431 et seq.), the Michigan Tall Structures Act (Public Act 259 of 1959, MCL 259.481 et seq.), and local jurisdiction airport overlay zone regulations. An interconnected On Site Use wind energy system shall comply with Michigan Public Service Commission

and Federal Energy Regulatory Commission standards. Off-grid systems are exempt from this requirement.

4. Safety: An On Site Use wind energy system shall have automatic braking, governing, or a feathering system to prevent uncontrolled rotation or over speeding. All wind towers shall have lightning protection. If a tower is supported by guy wires, the wires shall be clearly visible to a height of at least six feet above the guy wire anchors. The minimum vertical blade tip clearance from grade shall be 20 feet for a wind energy system employing a horizontal axis rotor.

Commentary: Safety issues are addressed by reference to state construction and electrical codes and federal and state requirements related to towers. Safety issues are also addressed by provisions related to property set-backs, lowest point of blade, wind energy system controls, lightning protection, guy wire visibility, and interconnection standards.

- C. Wind Site Assessment for Utility Grid Wind Energy Systems: Prior to construction of a Utility Grid wind energy system, a wind site assessment is conducted to determine the wind speeds and the feasibility of using the site. Installation of anemometer towers also known as meteorological or "Met" towers shall be considered a Special Land Use. Prior to the installation of the tower, an application for a Special Land Use permit shall be filed with the local government that will include 1) applicant identification, 2) a site plan, 3) a copy of that portion of the applicant's lease with the land owner granting authority to install the Met tower and requiring the applicant to remove all equipment and restore the site after completion of the wind site assessment, and 4) proof of the applicant's public liability insurance. The distance from the center of a Met tower and the property lines between the leased property and the non-leased property shall be at least the height of the Met tower. Leased property can include more than one piece of property and the requirement shall apply to the combined properties.

- D. Utility Grid Wind Energy Systems: A Utility Grid wind energy system is designed and built to provide electricity to the electric utility grid. Utility Grid wind energy systems shall be considered a Special Land Use. Prior to the installation of a Utility Grid wind energy system, an application for a Special Land Use permit shall be filed with the local government and shall include the following:

Commentary: Utility Grid wind energy systems may be treated as Special Land Uses under local zoning ordinances. Zoning Boards may also decide to enter into a "Development Agreement" with a wind energy company that also incorporates suitable conditions or may develop a "Wind Overlay Zone" as an addition to or amendment of their existing zoning ordinances. For example, Huron County has developed a Wind Energy Conversion Facility Overlay Zoning Ordinance.

1. Applicant Identification: Applicant name, address, and contact information.
2. Project Description: A general description of the proposed project including a legal description of the property or properties on which the project would be located and an anticipated construction schedule.
3. Site Plan: The site plan shall include maps showing the physical features and land uses of the project area, both before and after construction of the proposed project.

The site plan shall include 1) the project area boundaries, 2) the location, height, and dimensions of all existing and proposed structures and fencing, 3) the location, grades, and dimensions of all temporary and permanent on-site and access roads from the nearest county or state maintained road, 4) existing topography, 5) water bodies, waterways, wetlands, and drainage channels, and 6) all new infrastructure above ground related to the project.

4. Insurance: Proof of the applicant's public liability insurance.
5. Consent Documents: Copies of any written waivers from neighboring property owners.
6. Sound Pressure Level: Copy of the modeling and analysis report.
7. Certifications: Certification that applicant has complied or will comply with all applicable state and federal laws and regulations. Copies of all such permits and approvals that have been obtained or applied for at time of the application.
8. Visual Impact: Visual simulations of how the completed project will look from four viewable angles.
9. Environmental Impact: Copy of the Environmental Impact analysis.
10. Avian and Wildlife Impact: Copy of the Avian and Wildlife Impact analysis.
11. Shadow Flicker: Copy of the Shadow Flicker analysis.
12. Manufacturers' Material Safety Data Sheet(s): Documentation shall include the type and quantity of all materials used in the operation of all equipment including, but not limited to, all lubricants and coolants.
13. Decommissioning: Copy of the decommissioning plan.
14. Complaint Resolution: Description of the complaint resolution process.

An applicant shall remit an application fee in the amount specified in the fee schedule adopted by the local government. This schedule shall be based on the cost of the application review and may be adjusted from time to time.

The Utility Grid wind energy system project shall meet the following standards and requirements:

1. Overlay Zone: If the site of the proposed project is subject to an overlay zone, the proposed project shall meet or exceed the applicable standards in the overlay zone.
2. Property Set-Back: The distance between a Utility Grid wind energy system and the property lines of adjacent non-leased properties including public rights of way shall be at least the height of the wind energy system tower including the top of the blade in its vertical position. Where property is leased on both sides of a public right of way, a wind energy system may be placed no closer than one rotor radius from the closest edge of the right of way. Leased property can include more than one piece of property and the requirement shall apply to the combined properties.

SCADA (supervisory control and data acquisition) or meteorological (Met) towers shall also comply with the property set-back requirement. The set-back shall be at least the height of the SCADA or Met tower. An Operations and Maintenance Office building, a sub-station, or ancillary equipment shall comply with any property set-back requirement that may be applicable to that type of building or equipment. Overhead transmission lines and power poles shall comply with the set-back requirements applicable to public utilities.

Commentary: The property set-back requirement is designed to protect neighbors in the unlikely event of a tower failure.

3. Sound Pressure Level: The sound pressure level generated by a Utility Grid wind energy system shall not exceed 55 dB(A) measured at the property lines between leased and non-leased property. This sound pressure level shall not be exceeded for more than 3 minutes in any hour of the day. If the ambient sound pressure level exceeds 55 dB(A), the standard shall be ambient dB(A) plus 5 dB(A).

As part of the application and prior to installation, the applicant shall provide modeling and analysis that will confirm that the Utility Grid wind energy system will not exceed the maximum permitted sound pressure levels. Modeling and analysis shall conform to IEC 61400 and ISO 9613. After installation of the Utility Grid wind energy system, sound pressure level measurements shall be done by a third party, qualified professional according to the procedures in the most current version of ANSI S12.18. All sound pressure levels shall be measured with a sound meter that meets or exceeds the most current version of ANSI S1.4 specifications for a Type II sound meter. Documentation of the sound pressure level measurements shall be provided to the local government within 60 days of the commercial operation of the project.

Commentary: Noise issues are complex and many communities do not have any detailed noise standards. Normal conversation is in the range of 50-65 dB(A). Noise standards may consider the potential for bodily injury, long term health effects, interference with speech and other activities, and sleep disturbance. EPA and World Health Organization documents indicate that 55 dB(A) is too low to produce hearing loss or long-term health effects.^{1&2} Related to speech interference, would 55 dB(A) interfere with speech at the property line? EPA has estimated that the distance between persons would have to be 4 meters before there would be any interference.¹ Related to sleep disturbance, the World Health Organization notes that "80-90% of the reported cases of sleep disturbance in noisy environments are for reasons other than noise originating outdoors" and "habituation to night-time noise events occurs."² EPA has noted that the typical sound level reduction of buildings in cold climates is 17 dB (windows opened) and 27 dB (windows closed) so 55 dB would be reduced to at least 28-38 dB indoors.¹

References

1. EPA, 1974. *Protective Noise Levels: Condensed Version of EPA Levels Document.*
2. World Health Organization, 1999. *Guidelines for Community Noise.*

The guidelines recommend basic standards for sound pressure levels. The standards can be more detailed and sophisticated. Separate standards can be developed for infranoise and low-frequency sound pressure levels. Separate standards can be developed for residential and non-residential areas. Sound pressure levels characterized as tonal can have lower limits. For example, the Huron County ordinance reduces their standard by 5 dB(A) in the event audible noise from the wind energy system contains a steady pure tone. Local governments who desire a more refined standard may want to consider developing a noise ordinance that would cover all generators of sound pressure levels in a fair and consistent manner.

4. Construction Codes, Towers, and Interconnection Standards: Utility Grid wind energy systems including towers shall comply with all applicable state construction and electrical codes and local building permit requirements. Utility Grid wind energy systems including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act (Public Act 23 of 1950, MCL 259.431 et seq.), the Michigan Tall Structures Act (Public Act 259 of 1959, MCL 259.481 et seq.), and local jurisdiction airport overlay zone regulations. The minimum FAA lighting standards shall not be exceeded. All tower lighting required by the FAA shall be shielded to the extent possible to reduce glare and visibility from the ground. The tower shaft shall not be illuminated unless required by the FAA. Utility Grid wind energy systems shall comply with applicable utility, Michigan Public Service Commission, and Federal Energy Regulatory Commission interconnection standards.

5. Safety: All Utility Grid wind energy systems shall be designed to prevent unauthorized access to electrical and mechanical components and shall have access doors that are kept securely locked at all times when service personnel are not present. All spent lubricants and cooling fluids shall be properly and safely removed in a timely manner from the site of the wind energy system. A sign shall be posted near the tower or Operations and Maintenance Office building that will contain emergency contact information. Signage placed at the road access shall be used to warn visitors about the potential danger of falling ice. The minimum vertical blade tip clearance from grade shall be 20 feet for a wind energy system employing a horizontal axis rotor.

Commentary: Safety issues are addressed by reference to state construction and electrical codes and federal and state requirements related to towers. Safety issues are also addressed by provisions related to property set-backs, lowest point of blade, interconnection standards, falling ice, access doors, and handling of materials.

6. Visual Impact: Utility Grid wind energy system projects shall use tubular towers and all Utility Grid wind energy systems in a project shall be finished in a single, non-reflective matte finished color. A project shall be constructed using wind energy systems of similar design, size, operation, and appearance throughout the project. No lettering, company insignia, advertising, or graphics shall be on any part of the tower, hub, or blades. Nacelles may have lettering that exhibits the manufacturer's and/or owner's identification. The applicant shall avoid state or federal scenic areas and significant visual resources listed in the local unit of government's comprehensive plan.

Commentary: Visual impact issues are difficult to address. Individuals seem to either like or dislike the look of wind energy systems. The guidelines try to address visual impact issues by providing some design standards and by restricting commercial advertising.

7. Environmental Impact: The applicant shall have a third party, qualified professional conduct an analysis to identify and assess any potential impacts on the natural environment including, but not limited to wetlands and other fragile ecosystems, historical and cultural sites, and antiquities. The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impacts identified in the

analysis. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts.

The applicant shall comply with applicable parts of the Michigan Natural Resources and Environmental Protection Act (Act 451 of 1994, MCL 324.101 et seq.) including but not limited to Part 31 Water Resources Protection (MCL 324.3101 et seq.), Part 91 Soil Erosion and Sedimentation Control (MCL 324.9101 et seq.) , Part 301 Inland Lakes and Streams (MCL 324.30101 et seq.), Part 303 Wetlands (MCL 324.30301 et seq.), Part 323 Shoreland Protection and Management (MCL 324.32301 et seq.), Part 325 Great Lakes Submerged Lands (MCL 324.32501 et seq.), and Part 353 Sand Dunes Protection and Management (MCL 324.35301 et seq.). The applicant shall be responsible for making repairs to any public roads damaged by the construction of the Utility Grid wind energy system.

Commentary: Environmental issues are complex. The guidelines identify areas that should be addressed in an environmental impact analysis but do not specify how the analysis should be conducted. Site specific issues should determine which issues are emphasized and studied in depth in the analysis. There are a number of state and federal laws that may apply depending on the site.

8. Avian and Wildlife Impact: The applicant shall have a third party, qualified professional conduct an analysis to identify and assess any potential impacts on wildlife and endangered species. The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impacts identified in the analysis. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts.

Sites requiring special scrutiny include wildlife refuges, other areas where birds are highly concentrated, bat hibernacula, wooded ridge tops that attract wildlife, sites that are frequented by federally and/or state listed endangered species of birds and bats, significant bird migration pathways, and areas that have landscape features known to attract large numbers of raptors.

At a minimum, the analysis shall include a thorough review of existing information regarding species and potential habitats in the vicinity of the project area.. Where appropriate, surveys for bats, raptors, and general avian use should be conducted. The analysis shall include the potential effects on species listed under the federal Endangered Species Act and Michigan's Endangered Species Protection Law.

The analysis shall indicate whether a post construction wildlife mortality study will be conducted and, if not, the reasons why such a study does not need to be conducted. Power lines should be placed underground, when feasible, to prevent avian collisions and electrocutions. All above-ground lines, transformers, or conductors should comply with the Avian Power Line Interaction Committee (APLIC, <http://www.aplic.org/>) published standards to prevent avian mortality.

Commentary: These guidelines identify areas that should be addressed in an avian and wildlife impact analysis but do not specify how the analysis should be conducted. Site

specific issues should determine which issues are emphasized and studied in depth in the analysis. To assist applicants to minimize, eliminate, or mitigate potential adverse impacts, the U.S. Fish and Wildlife Service has developed Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines which can be found at <http://www.fws.gov/habitatconservation/wind.pdf>. If the local government desires more structure to the analysis requirements, the Potential Impact Index developed by the U.S. Fish and Wildlife Service provides a framework for evaluating a project's impact on wildlife

Applicants must comply with applicable sections of the federal Endangered Species Act and Michigan's Endangered Species Protection Law. The applicant should be aware that taking of these species is prohibited by State and/or Federal law unless the proper permits or exemptions are acquired. Early coordination with state and federal agencies is recommended. The applicant or the applicant's impact analyst should contact the U.S. Fish and Wildlife Service's East Lansing Field Office regarding federally-listed species and the Michigan Dept. of Natural Resources for state-listed species.

9. Electromagnetic Interference: No Utility Grid wind energy system shall be installed in any location where its proximity to existing fixed broadcast, retransmission, or reception antennae for radio, television, or wireless phone or other personal communication systems would produce electromagnetic interference with signal transmission or reception unless the applicant provides a replacement signal to the affected party that will restore reception to at least the level present before operation of the wind energy system. No Utility Grid wind energy system shall be installed in any location within the line of sight of an existing microwave communications link where operation of the wind energy system is likely to produce electromagnetic interference in the link's operation unless the interference is insignificant.
10. Shadow Flicker: The applicant shall conduct an analysis on potential shadow flicker at occupied structures. The analysis shall identify the locations of shadow flicker that may be caused by the project and the expected durations of the flicker at these locations from sun-rise to sun-set over the course of a year. The analysis shall identify problem areas where shadow flicker may affect the occupants of the structures and describe measures that shall be taken to eliminate or mitigate the problems.
11. Decommissioning: The applicant shall submit a decommissioning plan. The plan shall include: 1) the anticipated life of the project, 2) the estimated decommissioning costs net of salvage value in current dollars, 3) the method of ensuring that funds will be available for decommissioning and restoration, and 4) the anticipated manner in which the project will be decommissioned and the site restored.
12. Complaint Resolution: The applicant shall develop a process to resolve complaints from nearby residents concerning the construction or operation of the project. The process may use an independent mediator or arbitrator and shall include a time limit for acting on a complaint. The process shall not preclude the local government from acting on a complaint. During construction the applicant shall maintain and make available to nearby residents a telephone number where a project representative can be reached during normal business hours.

Draft Model Small Wind Ordinance for Maryland

March 2008

MARYLAND MODEL WIND ORDINANCE FOR TOWNS/COUNTIES

1. PURPOSE

The purpose of the Ordinance is to facilitate the installation and construction of small wind energy systems in the [Town/County] for private landowners, subject to reasonable restrictions, which will preserve the public health and safety.

2. APPLICABILITY

The requirements set forth in this Ordinance shall govern the siting of small wind energy systems used to generate electricity or perform work which may be connected to the utility grid pursuant to the Maryland's net metering laws (Maryland Public Utility Companies Article § 7-306), serve as an independent source of energy, or serve in a hybrid system.

The requirements of this Ordinance shall apply to all Small Wind Energy Systems proposed after the effective date of this Ordinance. Small Wind Energy Systems for which a required permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, however, that any such pre-existing Small Wind Energy System that is not producing energy for a continuous period of twelve (12) months shall meet the requirements of this Ordinance prior to recommencing production of energy. No modification that increases the height of the system or significantly increases its output shall be allowed without full compliance with this Ordinance.

3. DEFINITIONS

As used in this Ordinance, the following terms shall have the meanings indicated:

Committee shall mean [[Town/County] Planning Committee or Planning Commission.]

FAA shall mean the Federal Aviation Administration.

MET Tower shall mean "Meteorological tower" or "met tower" means a structure designed to support the gathering of wind energy resource data , and includes the tower, base plate, anchors, guy cables and hardware, anemometers (wind speed indicators), wind direction vanes, booms to hold equipment anemometers and vanes, data logger, instrument wiring, and any telemetry devices that are

used to monitor or transmit wind speed and wind flow characteristics over a period of time for either instantaneous wind information or to characterize the wind resource at a given location.

Small Wind Energy System shall mean a wind energy conversion system, less than 100 kW, consisting of a wind turbine, tower, base and associated control or conversion electronics.

Siting Permit shall mean a construction and operating permit granted in accordance with the provisions of this Ordinance.

Total Height shall mean, when referring to a Wind Turbine, the distance measured from ground level to the blade extended at its highest point.

[Town/County] shall mean [_____ [Town/County].]

Wind Turbine shall mean the parts of the wind system including the blades, generator and tail.

4. REGULATORY FRAMEWORK

4.1. COMPREHENSIVE PLANS (SMART GROWTH)

Small Wind Energy Systems shall be constructed in areas consistent with the [Town/County] Comprehensive Plan.

4.2. ZONING

Small Wind Energy Systems may only be constructed in the following zoned areas: [insert permitted zoning] on the official zoning map for the [Town/County]. MET Towers may be temporarily installed in any zoned areas for a period of 18 to 24 months.

4.3. PRINCIPAL OR ACCESSORY USE

Small Wind Energy Systems may be considered either principal or accessory uses. A different existing use or an existing structure on the same lot shall not preclude the installation of a Small Wind Energy System or a part of such facility on such lot. Small Wind Energy Systems that are constructed and installed in accordance with the provisions of this Ordinance shall not be deemed to constitute the expansion of a nonconforming use or structure.

5. GENERAL REQUIREMENTS FOR SMALL WIND ENERGY SYSTEMS

5.1. VISUAL APPEARANCE; LIGHTING; POWERLINES

- 1) Wind Turbines shall be painted a non-reflective, non-obtrusive color such as the manufacturer's default color option or a color that conforms to the environment and architecture of the community. Small wind energy towers shall maintain galvanized steel, brushed aluminum or white finish, unless FAA standards required otherwise. The zoning authority may require a photo of a small wind energy system of the same model that is the subject of the landowner's application adjacent to a building or some other object illustrating scale (e.g., manufacturer's photo).
- 2) At Small Wind Energy System sites, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the Small Wind Energy System to the natural setting and then existing environment.
- 2) Small Wind Energy Systems shall not be artificially lighted, except to the extent required by the FAA or other applicable authority.
- 3) Small Wind Energy Systems shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the wind turbine.
- 4) Electrical controls and control wiring and power-lines shall be wireless or underground except where small wind energy system wiring is brought together for connection to the transmission or distribution network, adjacent to that network.
- 5) The applicant shall provide evidence that the proposed height of the small wind energy system tower does not exceed the height recommended by the manufacturer or distributor of the system.
- 6) The applicant shall certify that they will comply with the utility notification requirements contained in the Maryland net metering law and accompanying regulations in Section 5.7 of this Ordinance, unless the applicant intends, and so states on the application, that the system will not be connected to the electricity grid. Whether or not the applicant is participating in the net metering program, the applicant will be required to meet the most current IEEE (Institute of Electrical and Electronics Engineers) 1547 Standard for Interconnecting Distributed Resources with

Electric Power Systems. Additionally, upon final ruling of the Maryland Public Service Commission, the applicant shall also meet the requirements set forth in Maryland Small Generator Interconnection Standards (PSC Case No. 9060 pending).

5.2. SETBACKS

The following setbacks and separation requirements shall apply to all Small Wind Energy Systems and MET Towers; provided, however, that the Committee may reduce the standard setbacks and separation requirements if the intent of this Ordinance would be better served thereby.

- 1) A small wind energy system shall be located on a parcel that, at a minimum, is $\frac{1}{2}$ acre in size.
- 2) The tower height of a small wind energy system shall not exceed a maximum height of 80 feet on a parcel of between $\frac{1}{2}$ acre and one acre. For property sizes of one acre or more, there is no limitation on maximum height except as imposed by FAA regulations. In those zoned areas that have maximum height limits, the applicant can receive a waiver or variance from the Committee for exceeding the maximum height requirements for wind turbines if all other requirements in this Ordinance are met. MET Towers cannot exceed a maximum height of 80 meters (or 263 feet).
- 3) Property lines: Each Small Wind Energy System shall be set back from the nearest property line a distance no less than 1.1 times its Total Height, unless appropriate easements are secured from adjacent property owners, or other acceptable mitigation is approved by the Committee.
- 4) At the time of application, each Small Wind Energy System shall be set back from the nearest non-participating building structure (i.e., buildings on neighboring land) a distance no less than one and a half (1.5) times its total height.
- 5) Public and Private Roads: Each Small Wind Energy System shall be set back from the nearest public road or neighboring private right-of-ways (e.g., shared driveway, neighboring driveway) a distance no less than 1.1 times its Total Height, determined at the nearest boundary of the underlying right-of-way for such public road.

- 6) Communication and electrical lines: Each Small Wind Energy System shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than 1.1 times its Total Height, determined from the existing power line or telephone line.
- 7) No portion of Small Wind Energy Systems or MET Towers, including guy wire anchors, may extend closer than 30 feet from any property line.

5.3. SOUND LEVELS AND MEASUREMENT

Audible sound due to Small Wind Energy System operations shall not exceed fifty (55) dBA for any period of time, when measured at the property line of any property containing an occupied building on the date of approval of any Small Wind Energy System Siting Permit. The level, however, may be exceeded during short-term events such as utility outages and/or severe windstorms.

5.4. MINIMUM GROUND CLEARANCE

The blade tip of any Wind Turbine shall, at its lowest point, have ground clearance of no less than fifteen (15) feet, as measured at the lowest point of the arc of the blades.

5.5. SAFETY

- 1) Wind Turbine towers shall not be climbable up to 12 feet above ground level.
- 2) All access doors to Wind Turbine towers and electrical equipment shall be lockable.
- 3) Appropriate warning signage (e.g., electrical hazards) shall be placed on Wind Turbine towers, electrical equipment, and Small Wind Energy Systems.

5.6. FEDERAL AND STATE REQUIREMENTS

- 1) Compliance with Uniform Statewide Building Code: Building permit applications for wind energy systems shall be accompanied by standard drawings of the wind turbine structure, including the tower, base, and footings, and site plan (showing the location of the proposed small wind energy system and the locations of all existing buildings, structures and property lines to scale along with distances). An engineering analysis of the tower showing compliance with the Uniform Statewide Building Code and certified by a licensed professional engineer shall also be submitted.

This analysis may be supplied by the manufacturer. Wet stamps shall not be required.

2) Compliance with FAA Regulations: Wind energy systems must comply with regulations of the Federal Aviation Administration (FAA), including any necessary approvals for installations close to airports.

3) Compliance with National Electric Code: Building permit applications for Small Wind Energy Systems shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the National Electrical Code. This information may be supplied by the manufacturer.

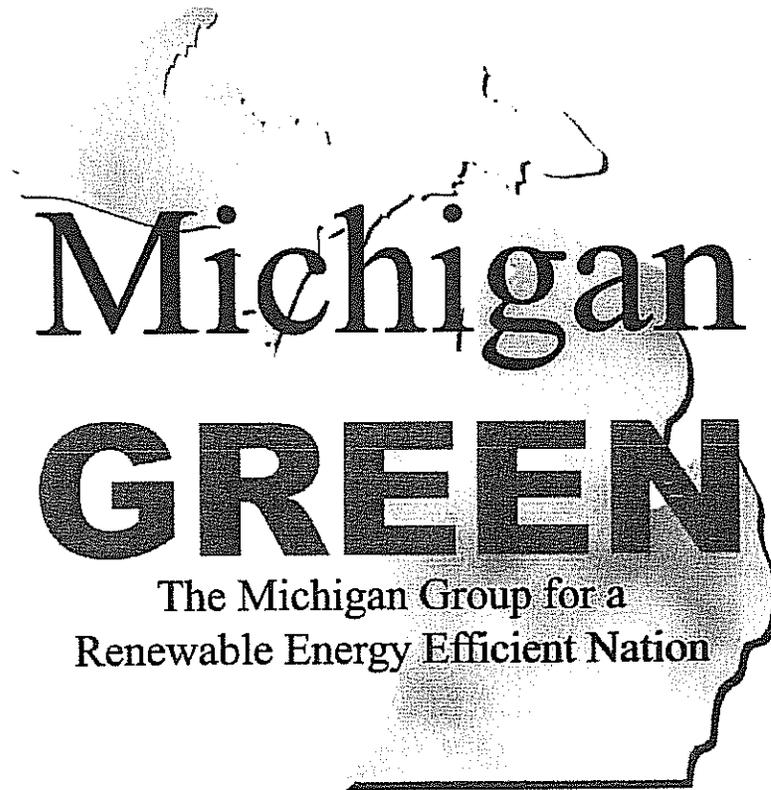
4) Compliance with Regulations Governing Net Energy Metering: Small Wind Energy Systems connected to the utility grid must comply with the Maryland Net Metering Laws (Maryland Code, Utility Companies Article § 7-306).

5) Compliance with IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems: Applicants must meet all interconnection requirements of the IEEE 1547, including those pertaining to safety, reliability and liability coverage requirements. Upon final ruling of the Maryland Public Service Commission, the applicant shall also meet the requirements set forth in Maryland Small Generator Interconnection Standards (PSC Case No. 9060 pending).

5.7. REMOVAL OF DEFECTIVE OR ABANDONED SMALL WIND ENERGY SYSTEMS

Any Small Wind Energy System found to be unsafe by the building official shall be repaired by the landowner to meet federal, state and local safety standards or removed within six months. If any Small Wind Energy System is not operational for a period of 12 consecutive months or more, the county will request by registered mail and provide 45 days such response for the landowner to provide corrective action. In such a response, the landowner shall set forth reasons for the operational difficulty and provide a reasonable timetable for corrective action. If the county deems the timetable for corrective action as unreasonable, they must notify the landowner and such landowner shall remove the turbine at their own expense within 120 days of receipt of notice from the county. The county or town administrator shall have the authority to pursue legal action if necessary.

Michigan Green Funding **Handbook**





Michigan GREEN Funding Handbook

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Introduction

This document will answer many questions about the Michigan GREEN Fund and various financing options that are available through the fund.

Prior to making a financing presentation or submitting a bid to a Government Agency, please contact Martina Stone or Curt MacRae, the Michigan GREEN financial officers, at (734) 458-1252 for a current rate quote and a discussion of financing options.

Who is Michigan GREEN?

Michigan GREEN began as an alliance of Michigan based companies that collaborated on various energy efficiency and environmental projects. In 2007 Michigan GREEN applied for and was granted Non Profit Corporation status.

The organization has grown since its inception. Michigan GREEN's membership includes energy companies and energy consultants, together with government agencies and schools, colleges, and universities, joining forces to champion the cause of renewable energy and energy efficiency in Michigan and the entire nation.

Membership is open to like-minded businesses, organizations and individuals that support Michigan GREEN's mission.

The Michigan GREEN Mission Statement

Michigan GREEN (Group for a Renewable Energy Efficient Nation) is a non-profit corporation committed to: 1) advancing the installation and implementation of energy efficiency and renewable energy technologies; 2) educational programming and resource sharing that increases the awareness and understanding of energy efficiency and renewable energy technologies and promotes the use of energy conservation measures in residential, commercial, and industrial settings; and 3) providing access to financial institutions and services that facilitate funding opportunities for energy related projects.

What is the Michigan GREEN Fund?

Michigan Green has positioned itself with various funding sources that are familiar with "green" projects and have an understanding of the makeup on energy related projects, and have demonstrated the desire to work within our structure to assist in the financing of Michigan Green Partners.

It is with this focus that we have created the Michigan Green fund.

This Fund is available for all members to use, and projects of all sizes can be accommodated. Our goal for this fund is to help ease the burden on each proposal by bringing the funding source to the table so the client does not have to seek out his option on there own. Note: At this time, residential projects are not eligible.

Financial Services and Structures

Michigan GREEN will provide underwriting with a complimentary array of consulting services to customers nationwide. Such as:

- Procurement consulting
- RFP consulting
- RFP development
- Preparation of underwriting analyses
- Rating transactions for private placement
- Managing acquisition funds
- Related milestone draw payments
- Delivery/Acceptance settlements to Michigan Green
- Investor payments through fiduciary accounts

Financing Structures

Payment structures available:

- Annual
- Semi-Annual
- Quarterly
- Monthly

Terms available:

- Two to ten years on small projects
- Up to 20 years on larger projects

Down Payments:

If a down payment is included in the payment structure, it is due upon acceptance and delivery of product.

Frequently Asked Questions

1. Q: What is Installment Purchase Financing (Lease Purchase Financing) using the Michigan GREEN Fund?

A: A financing method, which allows municipal entities to purchase equipment and projects on an installment basis at tax-exempt interest rates. It provides for the use of the equipment while simultaneously achieving ownership.

2. Q: What are the benefits of Utilizing the Fund?

A:

- Low, fixed rates
- Immediate, 100% financing (WAC)
- "Locked in" interest rates
- Flexible payment modes to meet individual needs
- Equity established with each payment
- No residual values or balloon payments
- Title vests with Lessee
- Viewed as current expenses, not long term debt
- No surprises approach

3. Q. What if I can't encumber funds for future years?

A. Our financing agreement has non-appropriation language for municipal leases.

4. Q. What if I am waiting on a state revolving fund?

A. Our agreements can be paid off early at any point – unlike bond issues.

5. Q. How do you collateralize the financing?

A. We collateralize with a General or Enterprise Fund.

6. Q. How does this compare to bonds?

A. Faster process, no voter approval, significant administrative savings, therefore saving time and money.

7. Q. How does the cost compare to bonds?

A. Overall Installment Purchase is cheaper. There are no fees and no significant legal fees with comparable rates.

8. Q. Can the entire project be financed?

A. Yes. All aspects of the project can be financed including soft costs such as installation and training.

9. Q. What are the advantages of using Installment Purchase Financing over cash?

A. It can enable you to complete your project now at today's prices and low rates as well as conserve your current budget. Cost justification is a simple process.

10. Q. What are the terms of the financing and typical interest rates?

A. Terms from 2 to 10 years are available with rates as low as 4%

11. Q. What types of projects and equipment do you finance?

A. We can finance energy upgrades, school buses, rolling stock waste water treatment plants, computers, modular buildings, real property, real estate, equipment, and more. We can finance any equipment, new or used for any commercial or municipal entity.

12. Q. How long does it take to get financing?

A. We can provide financing in as little as 2 days.

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Top Five reasons for your customer to consider Installment Purchase Financing:

1. Get started on needed projects now
2. No additional fees
3. 100% financing
4. Finance all project costs, hard and soft
5. Can be paid off when grants are awarded

Quoting

All preliminary quoting will be finalized upon credit approval.
Personal Request/Credit Application/Rate Request
Specific Rate requests will be used in transactions where the following is applicable.

- Competitive Bid Situations (Copy of RFP required)
- Larger Transactions (Financings above \$250k)
- Transactions that require higher level of financial expertise
- Transactions that are likely to close (sign PO) within next 90 days
- Custom Payment Schedules or Custom Issues

An Overview of Municipal Installment Purchase Financing

Municipal Installment Purchase Financing, also known as a Municipal Lease, is a contract that has many of the characteristics of a standard commercial lease, with three differences:

- In a Municipal Lease, the intent of the lessee is to purchase and take title to the equipment. The financing is a full payout contract with no significant residual or balloon payments at the end of the lease term.
- The lease payments include the return of principal and interest, with the interest being exempt from Federal income taxation to the recipient. Typically, a tax-exempt interest transaction will be financed at interest rates lower than equivalent commercial financing.
- The Municipal Lease provides for termination for non-appropriation of funds by the Government Agency.

Termination for non-appropriation distinguishes a Municipal Lease from all other types of leases. The clause normally is required so that the lease does not constitute a long-term debt instrument. The obligation to pay is subject to appropriations being made annually over the term set forth in the lease.

To justify non-appropriation, the municipality must certify that it does not have funds to continue payments and has made its best efforts to procure funds by requesting the funds in its budget.

A Municipal Lease offers several advantages over alternative methods of financing. First and foremost is simplicity. Under most state statutes, municipal contracts with terms of over one year require significant investments in time and money in order to comply with municipal debt restrictions. Since a Municipal Lease is, in effect, a year-to-year obligation, many of these requirements do not apply. The ease of executing a Municipal Lease minimizes the time and the expenses associated with issuing a bond.

Also a Municipal Lease is most often the least expensive method of financing equipment that costs from \$5,000 to \$20,000,000 plus. The very slight advantage in the interest rate offered by a bond is offset by the legal and administrative costs incurred in generating the bond issue. The Municipal Lease requires neither the bond election nor the long-term administration of the bond. The Municipal Lease exerts no impact on the organization's credit availability and provides greater flexibility in allocating available resources. Additionally, a Municipal Lease does not require the separate legal or underwriting fees that the municipality would incur with a bond issue. Leasing provides a rapid solution to the municipality. Municipal Leases are

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not true leases, but are firm purchase agreements and are similar to installment purchases subject to termination in the event of non-appropriation.

Municipal Lease transactions are governed by the Internal Revenue Code. Under these requirements, a qualified state or local Government Agency or governmental subdivision can finance property acquisitions under contracts in which the interest income the leasing company derives will be exempt from Federal income tax. A tax-exempt interest transaction typically is financed at an interest rate below equivalent commercial financing. The IRS requires these transactions be a) a lease to ownership plan (installment purchase); b) for equipment that is essential to the government function; and c) have no significant residual or balloon payment at the end of the contract term.

Who qualifies for a municipal lease?

Municipal Lease transactions can be provided for states and their political subdivisions such as counties and cities. Departments or agencies such as state universities, fire and police departments, school districts, sanitation, hospitals, or special districts may also be eligible.

To be qualified, a governmental entity must possess one of three characteristics of a government; they must possess:

- The power of eminent domain
- Police powers
- The power to levy taxes

The fact that an agency is supported by government funds or is not subject to sales tax does not always ensure qualification. Non-profit corporations do not qualify for Municipal Leasing.

Documentation Michigan GREEN will provide and negotiate all documentation for the transaction. See the documentation process beginning on page 11 for more details.

Examples of Municipal Entities:

- State and local Government Entities: Cities, Towns, Townships
- Municipal School Districts
- Regional Transit Agencies
- Special Tax Districts: Water authorities, public Utilities, Fire Districts

Note that because an entity doesn't pay taxes does not guarantee that the entity can borrow tax-exempt monies (i.e. churches, non-profit organizations cannot borrow tax-exempt debt unless special circumstances are present). Private schools are also an entity that cannot borrow tax-exempt monies unless they are funded directly by a municipality.

Municipal Lease-Purchase This lease-to-own mechanism is used for municipal entities that want to spread the cost over the useful life of the equipment. Flexible payment structures and straight amortization of financed amount make this a favorable option for many municipal entities.

Municipal entities must have the "intent to own" the equipment in order to apply for tax-exempt rates. If "intent to own" is not present, commercial rates apply. A \$1 buyout is not necessary due to the straight amortization but can be applied if the customer requests it. The lease purchase financing structure is a quick, easy and cost effective method to acquire essential equipment, while spreading the cost over the useful life. Compared to the typical route of issuing bonds, the savings can be significant. There are no fees, points or other costs associated with our financings.

We provide a straight and even amortization of the amount borrowed at tax-exempt interest rates, with principal and interest being retired with each and every payment. Prepayment can occur at anytime and the repayment structure can be customized to fit your needs exactly. Municipal managers have found this method of financing capital equipment and projects to be an invaluable cash flow management tool.

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Why a municipal lease?

Quick Delivery: Lease financing allows a government entity to obtain needed equipment immediately. Bond issues can take months to complete and require voter approval.

Non-Appropriation: In most jurisdictions, the authority of an administrator to enter into debt or obligation of future funds is severely limited. For this reason, a Municipal Lease is characterized by a non-appropriation clause that specifies that the lease can be terminated in the event funds are not made available in subsequent fiscal years.

Early Purchase Option: If funds become available, the customer has the option to buyout the lease at any time by paying the applicable purchase price plus any accrued interest. A detailed amortization schedule is provided for each transaction.

Flexible Terms: The payment can be tailored to suit the needs of each customer. Annual, semi-annual, quarterly and monthly payment intervals are available. Deferrals, down payments and advance payments can also be arranged. Terms reflective of the useful life of the equipment have a lower interest expense as compared to long-term bond issues. Lessees can choose payment schedules most suited to their needs, including length of contract, payment interval and advance or arrears payments. Up to 100% of the equipment cost can be financed as well as training and maintenance.

Nothing Down: Generally no down payment or security deposit required. However, structuring the lease with advance payments may lower the net cost of financing to the Lessee and will help the credit score. Depending on the circumstances the customer may make the first payment up to one year after delivery.

This accelerates the process: Because the acquisition costs are spread over multiple fiscal years, a municipal Lease removes budgetary constraints, permits the purchase of needed equipment, allows an upgrade of the equipment and provides the ability to obtain additional units.

Questions? Prior to making a financing presentation or submitting a bid to a Government Agency, please contact Mike Proper (MGF) at (517) 626-2408 for a current rate quote and a discussion of lease contract options. When the agency agrees to the lease, Michigan GREEN will prepare and forward documents usually within 24 hours of completion of the document check list.

Documentation Process

Proposal

Michigan GREEN reps will provide a sales quote and a financing proposal with every equipment proposal. Please refer to Quoting section to decipher between which quoting mechanism is applicable.

A Michigan GREEN is available for questions, rate requests, and to negotiate the financing.

Documentation

When the customer agrees to move forward with the proposal for financing needs a Michigan GREEN representative will work with the customer to complete the Document Checklist in order for the process to begin.

We will negotiate and prepare documents, and will provide standard, comprehensive documents for each transaction, designed to protect the interests of all parties while complying with all federal, state, and local laws.

Credit Analysis

A Michigan GREEN rep will request all necessary financial information (if not received prior to this point) from customer.

Necessary Financial information

- 3 years of audited financial statements
- Current interim financial statements and/or budgets
- Feasibility studies if applicable

We will conduct a complete credit review of every prospective customer. Credit categories scrutinized in our analysis; assessments give valuable insight for determining whether prospective customers should incur additional financial obligation. We also rate a prospect's ability to repay the obligation.

Portfolio Approval and Placement

Following credit approval and receipt of the properly executed documents, funds will be transferred into an acquisition account.

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Delivery and Acceptance

Subject to the delivery and acceptance of the project/equipment by the customer, funds are released from the Acquisition Account and wired directly to Vendor(s). If the financing structure included a down payment, it must be received prior to disbursement of funds.

Loan Administration

Michigan GREEN underwriters will service transaction for the remainder of the term and be available to handle any questions or concerns that may arise after the completion of the financing term.

Process and Timeline

Acquire audited financial statements and current budget 1 - 2 days
Board resolution passed 1 day
Documents sent out 7 - 10 days
Customer returns signed documentation 10 - 14 days
Funding of transaction 21 - 30 days
Delivery of equipment/project start
Payment to vendor within 3 business days of prefunding is available. (Notify when submitting lease application)

Glossary of Terms

Acquisition Account: This account is established at funding. Funds are deposited and held in this account until delivery and acceptance of project/equipment by customer, at which time payment is issued out of the account to pay for the project/equipment. This account is established so that the supplier will receive prompt payment upon completion/delivery and acceptance of project/equipment.

Advance or down payment: Some leases call for a specific number of lease payments in advance. The total number of payments during the lease is reduced by the advance payments. Municipal lease purchasing may call for an advance or down payment, depending upon request of customer or credit issues. Advance or down payments increase credit score.

Cumulative Funding Time: To ensure a prompt closing of the financing/payment upon delivery/start, Michigan GREEN shall be in contact to start documentation process with the customer at a minimum of 10 days prior to anticipated delivery/start. If the process is begun within 45 days of delivery/start, we will guarantee Vendor(s) will be wired funds 24-48 hours after receipt of Acceptance certificate.

Delivery & Acceptance: Acknowledgement in writing by the customer that the equipment has been received and is in satisfactory condition.

Document Checklist: This is a one page information sheet that we will complete with the customer prior beginning documentation process.

Documentation Process: The process in which credit approval, creation of documentation, portfolio approval and funding of transactions fall under.

End of Lease Options: The customer takes ownership of the project/equipment at the end of the lease.

Lessee: The customer (buyer) signing the lease is considered the lessee's.

Lessor: The investor (lender) is usually considered the Lessor.

Master Lease Agreement: One lease agreement for several pieces of equipment purchased at different times from one or more vendors. Once we have approved a customer's credit, we will only require brief addendums and equipment schedules for each new batch of equipment. This is applicable for multiple finance leases and financings over \$250,000.

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Milestone Payments: In the event milestone payments are made in advance of the final acceptance and delivery of the product, this advance of funds may need to be secured either by (1) a UCC filing or other appropriate securitization, or (2) a Performance Bond issued by vendor(s).

Municipal Entities: Must have at least one of the following powers to be able to acquire tax-exempt monies.

- Power of Taxation
- Police Power
- Power to condemn (Eminent Domain)

Origination: A department of Michigan GREEN. Origination will handle all quotes, direct contact with customer and will work side-by-side with project engineers to complete transaction as efficiently and smoothly as possible.

Portfolio: A department within our investors that works with investors, processes documentation and credit analysis, and manages the acquisition accounts. This department is in charge of credit approval.

Portfolio Approval: This approval is contingent upon credit approval and receipt of completed documents. After the transaction is approved by portfolio, funds are placed into the acquisition account.

UCC Filing: This is a filing with the state that perfects the security interest of the investor. Depending upon if milestone payments are necessary, investors may want UCC filings to be recorded.



FEATURED STORY

Lansing Gets Green with Grand Rapids

BY: JOHN A. KINCH, 8/27/2008

Lansing-area green builder Gene Townsend says that, until recently, anyone around Mid-Michigan with interest in the sustainability principles of economic prosperity, social equity and environmental stability "had to go to Grand Rapids to learn it."

Over the last decade, Grand Rapids and its green-minded mayor, George Heartwell, have pioneered much that is sustainable in the state: green building, green government, green master planning and green business practices, among other initiatives. So much green activity, in fact, that in 2007 the United Nations designated Grand Rapids as one of 32 cities in the



world to be a Regional Center of Expertise in Education for Sustainable Development.

But, to the satisfaction of Townsend and many others in Lansing, sustainability is catching on here, too.

Lansing's Green

Laundry List

The lengthy rundown of green work in the Lansing metro area extends far beyond the current green building bloom or the colorful rain gardens now sprouting up and down Michigan Avenue—a city project to capture polluting runoff from reaching the Grand River.

It includes the success of the "Greater Lansing Go Green" initiative and sustainable manufacturers and businesses like Peckham, Dowding Industries and Granger. Neighborhoods like Old Town and Eastside are undertaking green redevelopment projects, recycling drives, and farmer's markets. Michigan State University is working on wind power and organic agriculture while Lansing Community College has developed an alternative energy technology specialist degree.

Lansing Mayor Virg Bernero has championed green initiatives in recent years, including green building downtown and creating the Greater Lansing Go Green initiative, which encourages area businesses and citizens to reduce their carbon footprint, among other things.

Taylor Heins, who directs the



program, says the community response has been "tremendous" since it began in October, with more than 6,000 citizens and 200 businesses pledging to become more sustainable.

At a hot July afternoon dedication at Old Town's Cedar Street School that Kincaid Building Group will redevelop into a green multiple-use office building, Bernero spoke about the importance of green redevelopment to a neighborhood's vitality. As he put it, it is about "making nothing into something. . . . That is going to help the whole community."

In Lansing, green building is among sustainability's brightest spots, in part, because of early sustainability champions like Townsend, whose recent Kalamazoo Gateway project, a mix of green residential and retail, is planned for downtown.

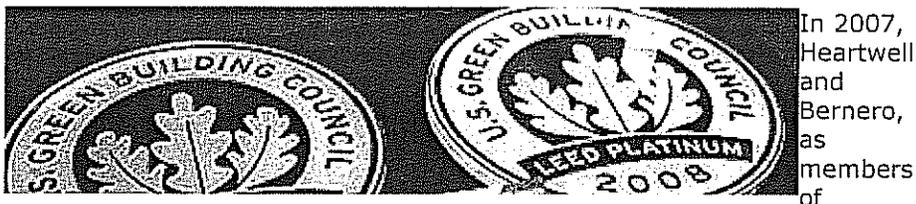
Another leader is the Christman Company, which recently earned the first double platinum LEED certification in the nation for its headquarters renovation in the 1928 Mutual Building in Lansing. Christman is also currently finishing up the MSU College of Human Medicine Secchia Center, another LEED certified project, on Michigan Street in Grand Rapids.

Greening Like Grand Rapids

For all Lansing's recent success, local sustainability proponents point to collaborations with their Grand Rapids counterparts as a key component to the flowering of green around the Capital City.

Bernero continues to have ongoing discussions with Grand Rapids Mayor George Heartwell on ways to make their respective cities more sustainable.

And Heartwell is a good one with which to cabal. Heartwell's is one of few cities in the nation that has a Sustainability Plan that sets its vision and agenda. He's one of the country's top green mayors, according to Kent E. Portney, a Tufts University professor and author of Taking Sustainable Cities Seriously.



In 2007, Heartwell and Bernero, as members of

Michigan's Urban Core Mayors, adopted a Renewable Portfolio Standard (RPS) that mandates that 15 percent of energy supplied to their communities by 2015 must come from renewable or alternative sources.

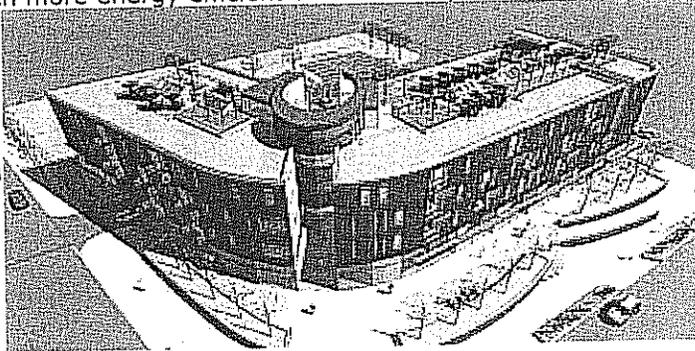
Townsend, Christman, Kincaid and others are collaborating with Grand Rapids counterparts through professional associations such as the U.S. Green Building Council (USGBC). Grand Rapids opened the first Michigan chapter of the USGBC in 2004; Lansing started up a growing branch last year.

Lansing still has far fewer green buildings, but it is coming on strong with nearly 30 commercial facilities registered for LEED certification, and more in the planning stages.

Smart Growth East Lansing

Good green building starts with good green planning, asserts Tim Dempsey, East Lansing's community and economic development administrator. The city is shepherding forward Strathmore Development Company's ambitious City Center II project, located on a brownfield site. The green project will have a boutique hotel, offices, condos, an MSU Wharton Center satellite performing arts theater and Naya Bistro & Wine Bar, a Grand Rapids-based upscale restaurant.

"City Center II reflects the essence of New Urbanism, or, Smart Growth: higher density," Dempsey says. "The main building is going vertical—10 stories. [It's] much more energy efficient built that way. It's seeking LEED certification. Lots of residential units in a smaller land parcel versus the alternative, which is the single-story, sprawling development model all too familiar to most of us."

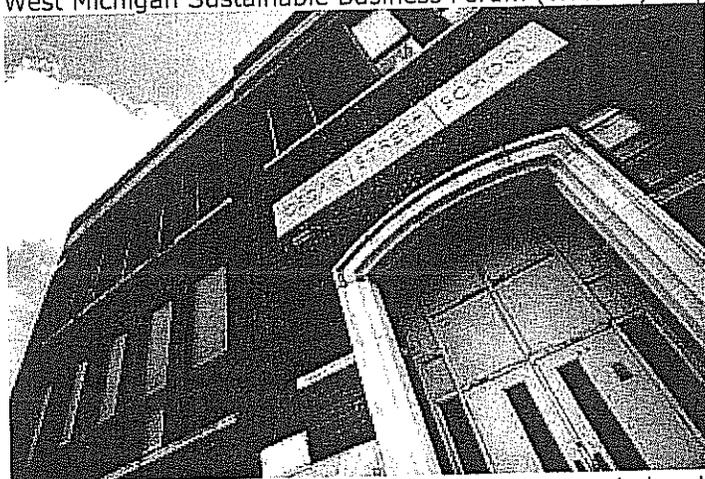


Dempsey says Grand Rapids has been a positive model to emulate with its "Green Grand Rapids" master plan. Further collaborations are in the works. And, a vital resource for this progressive planning in both communities has been the research and recommendations by MSU experts.

Green Returns

Sustainability advocates and their know-how travel both directions on I-96. In Grand Rapids, Suzanne Schultz, city planner, has shared notes with Lansing planner Bill Rleske. His work with rain gardens, in turn, has impressed Rachel Hood, executive director of West Michigan Environmental Action Council (WMEAC) in Grand Rapids.

Over the years, WMEAC has worked on a number of common regional issues with the Mid-Michigan Environmental Action Council (Mid-MEAC) in Lansing. For example, Mid-MEAC's Jessica Yorke points to Grand Rapids' West Michigan Sustainable Business Forum (WMSBF)—a project that grew out of WMEAC more than a decade ago—as a success.



Bill Stough started WMSBF, an association of Grand Rapids companies advancing socially and environmentally responsible "triple bottom line" practices. In

2002, Stough expanded this model to Lansing and elsewhere in the state.

Though Central Michigan Sustainable Business Forum didn't stick, former members do continue to preach and practice the gospel, including Gene Townsend, also a Mid-MEAC board member.

"I feel strongly that sustainability is going to be a core strategy for any surviving business" Stough says. "Any business that overlooks this, doesn't take it seriously, or thinks it is a trend or fad, will have serious repercussions on its ability to compete."

Stu Kogge is an aquatic biologist who lives and works in Lansing. His colleagues at JFNew, an ecological consulting firm, helped start Green Drinks— an informal meet-up of environmental sustainability-minded people—last year in Grand Rapids, and recently launched the program in Lansing. Kogge has made the trek several times to be part of Green Drinks Grand Rapids.

"I thought: 'Why not here?'" Kogge said the July 10 at the kick-off of Green Drinks Lansing. "The DEQ (Department of Environmental Quality), DNR (Department of Natural Resources), MSU, green developers—all are here. Let's get a lot of people together, get them thinking and doing."

John A. Kinch, Ph.D., is a green-minded writer, professor and communications strategist. Find him at kinchcommunications.com.

Dave Trumple is the managing photographer for Capital Gains. He is a freelance photographer and owner of Trumple Photography.

Photos:

Grand Rapids Mayor George Heartwell

Greater Lansing Go Green Director Taylor Heins

Cristman Company's two LEAD Platinum Awards

Kalamazoo Gateway project

Cedar Street School

All Photographs © Dave Trumple