

**Municipality of Grey Highlands**  
**Comprehensive Zoning By-law Amendment 2008-56**  
**Renewable Energy Zoning By-law Provisions**

**BEING** a By-law to amend the Municipality of Grey Highlands Comprehensive Zoning By-law No. 2004-50;

**WHEREAS** the Municipality of Grey Highlands and the County of Grey have adopted Official Plan Amendment No. 10 which established new policies relating to energy generation and transmission.

**AND WHEREAS** the Council of the Corporation of the Municipality of Grey Highlands deems it in the public interest to pass a By-law to amend By-law No. 2004-50 to establish zoning provisions for renewable energy systems.

**AND WHEREAS** pursuant to the provisions of Section 34 of the Planning Act, R.S.O. 1990, as amended, By-laws may be amended by Councils of Municipalities;

**NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE MUNICIPALITY OF GREY HIGHLANDS ENACTS AS FOLLOWS:**

**1. Section 3 of By-law 2004-50 is hereby amended by adding the following new definitions.**

**Adverse Effects**

Shall mean one or more of the following: impairment of the quality of the natural environment for any use that can be made of it, injury or damage to property or plant or animal life, harm or material discomfort to a person, an adverse effect on the health of any person, impairment of the safety of any person, rendering any property or plant or animal life unfit for human use, loss of enjoyment of normal use of property and interference with normal conduct of business.

**Alternative Energy System**

Shall mean sources of energy or energy conversion process that significantly reduce the amount of harmful emissions to the environment (air, earth and water) when compared to conventional systems.

**Biomass Energy System**

Means a renewable electrical generation facility using renewable biomass resources and/or waste products that produces electrical power for needs of a user or to feed into the transmission or local distribution grid.

"Biomass" means (a) peat, (b) wood, other than woodwaste, or (c) organic materials that are grown or harvested for the purpose of being burned to generate electricity.

"Waste Biomass" means agricultural waste, sewage, woodwaste and gases generated from the decomposition of organic materials, but does not include biogas or landfill gas.

A biomass energy system includes all components, supporting infrastructure, and outbuildings. A biomass energy system includes anaerobic digesters used principally for the generation of electricity.

**Built Heritage Resources**

Shall mean one or more significant buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic or military history and identified as being important to a community. These resources may be identified through designation or heritage conservation easement under the Ontario Heritage Act, or listed by local, provincial or federal jurisdictions.

**Cultural Heritage Landscape**

Shall mean a defined geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts. Examples may include, but are not limited to, heritage conservation districts designated under the Ontario Heritage Act; and the village, parks, gardens, battlefields, main streets and neighbourhoods, cemeteries, trailways and industrial complexes of cultural heritage value.

## **Energy from Waste**

Means the incineration of municipal solid waste (garbage), or the gasification or production of methane gas from municipal or County landfill sites, to produce electricity. Energy from waste is primarily to provide a means for waste reduction and disposal. Electrical generation is a secondary consideration of this process. This definition includes facilities that use waste in a raw/untreated form or that is pre-processed.

## **Nameplate Generating Capacity**

Means, with respect to a generation facility, the total of the design electricity generating capacities of all the generation units in the facility.

## **Point of Reception**

Means any point on the premises of a person within 30 metres of a dwelling or a camping area, where sound, vibration or shadow flicker originating from other than those premises is received. For the purpose of approval of new sources, including verifying compliance with Section 9 of the Environmental Protection Act, the Point of Reception may be located on any of the following existing or zoned for future use premises: permanent or seasonal residences, hotels/motels, nursing/retirement homes, rental residences, hospitals, camp grounds, and noise sensitive buildings such as schools and places of worship. For equipment/facilities proposed on premises such as nursing/retirement homes, rental residences, hospitals and schools, the point of Reception may be located on the same premises.

## **Renewable Energy System**

Shall mean the production of electrical power from an energy source that is renewed by natural processes including, but not limited to, wind, water, a biomass resource or product, or solar and geothermal energy. The scales of renewable energy systems follow:

- i) Micro Scale: Shall mean any renewable energy system that:
  1. Is classified as a "Category A" project as defined by Ontario Regulation 116/01 for Electricity Projects printed in the Ontario Gazette May 12, 2001; and
  2. Has 10kW or less of nameplate generating capacity; and,
  3. Does not exceed 17 metres in height.
- ii) Small Scale: Shall mean any renewable energy system that:
  1. Is a Wind Energy System that:
    - a. Is classified as a "Category A" project as defined by Ontario Regulation 116/01 for Electricity Projects printed in the Ontario Gazette May 12, 2001; and
    - b. Has 50kW or less of nameplate generating capacity; and,
    - c. Does not exceed 38 metres in height.
  2. Is a Solar Energy System that is mounted to an existing building or any ground installed facilities that occupy a maximum lot coverage of 10% up to a maximum of 1 hectare, or
  3. Is a Biomass Energy System with a nameplate generating capacity of less than 5 megawatts associated with a principal permitted use.
- iii) Medium Scale: Shall mean any renewable energy system that:
  1. Is classified as a "Category A" project as defined by Ontario Regulation 116/01 for Electricity Projects printed in the Ontario Gazette May 12, 2001; and
  2. Exceeds 50kW of nameplate generating capacity; and,
  3. Does not exceed 60 meters in height.
- iv) Large Scale: Shall mean any renewable energy system that meets any of the following criteria:
  1. Is a Wind Energy System that:
    - a. Is classified as a "Category B" or "Category C" project as defined by Ontario Regulation 116/01 for Electricity Projects printed in the Ontario Gazette May 12, 2001. These projects are subject to an environmental screening process (Category B) or an individual Environmental Assessment (Category C) according to the Environmental Assessment Act, as amended.
    - b. Exceeds 61 metres in height, or
  2. Is a Solar Energy System with ground installed facilities that occupy greater than 1 hectare or more of land.
  3. Is a Biomass Energy System with a nameplate generating capacity of 5 megawatts or greater.

### **Sensitive Land Uses**

Shall mean buildings, amenity areas, or outdoor spaces where routine or normal activities occurring at reasonably expected times would experience one or more adverse effects from contaminant discharges generated by a nearby major facility. Sensitive land uses may be a part of the natural or built up environment. Examples of sensitive land uses may include, but are not limited to: residences, day care centres, and educational and health facilities.

### **Setback (Wind Energy System)**

Shall mean the distance between the closest edge of the turbine base and the lot line or feature.

### **Site Alteration (Renewable Energy System)**

Shall mean activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site.

### **Solar Energy System**

Shall mean a renewable electrical generation facility that produces power from the sun using photovoltaic technology to provide all, or a portion of, the electrical power needs for a user or to feed into the transmission or local distribution grid. A solar energy system includes all arrays, supporting infrastructure, and outbuildings.

### **Turbine Height**

The height of a renewable energy system shall be measured from the base of the structure to the highest point of the structure. For instance, in the case of a typical horizontal axis wind turbine, the height is measured from the average ground level upon which the base/foundation sites to the tip of the rotor blade at its highest point.

### **Volt**

Shall mean the amount of 'pressure' required to transport electricity and push electrical energy through a wire. A measure of the Potential Difference between two points of an electrical field.

### **Watt**

Shall mean a unit to describe the size of an electrical generation system. One megawatt (1,000 kilowatts or 1,000,000 watts), of electrical energy can supply the instantaneous power needs of about 500 homes. Watts of energy is the amount of electricity produced.

### **Wind Energy System**

Shall mean a renewable electrical generation facility that produces power from wind primarily to provide all or a portion of the electrical power needs for a user or to feed into the transmission or local distribution grid. A wind energy system includes all supporting infrastructure, outbuildings and access roads.

## **2. Section 5.26 of By-law 2004-50 is hereby deleted in its entirety and replaced with the following Section:**

### **5.26 Renewable Energy Systems**

No renewable energy system shall be permitted in any zone unless defined as a permitted use and conforms to the following provisions:

- a) All renewable energy systems shall be subject to site plan control approval. Refer to the Municipality of Grey Highlands Site Plan Control Manual for details on how site plan control will be applied to renewable energy systems.
- b) A maximum of one (1) renewable energy system exceeding micro scale shall be permitted per property. Multiple micro scale systems are permitted on a single property.
- c) No renewable energy system is permitted within lands operating under a mineral/aggregate extraction license. The Municipality may consider an application for a micro or small scale renewable energy system in a licensed area subject to either a minor variance or Zoning By-law Amendment application that would consider the tests of the Official Plan.
- d) This Section must be read in conjunction with additional reference and requirements found in Section 3: Definitions, and Section 5.5 Setback Requirements
- e) Prior to the approval of a new renewable energy system, the proponent shall ensure that where there is a vacant lot of record in the vicinity of the project upon which a point of reception could be built in accordance with the local zoning for the property, the proponent must model and demonstrate that the receptor could be built on the property without being subjected to adverse effects. This shall be accomplished by demonstrating that a one hectare building envelope exists on a portion of the property that would reasonably be expected to contain the use and which conforms to the following provisions. Where a one hectare building envelope is not

available due to existing site constraints or lot size, then the actual available building envelope should be modeled.

- i) Located outside of natural heritage constraints (i.e. Provincially Significant Wetlands, Significant Woodlots); and
- ii) Located outside of obvious site constraints such as steep topography, karst topography, or other natural hazard lands; and
- iii) Located such that safe and reasonable access is available; and
- iv) Is consistent with the typical building pattern in the area or recognizes unique site attributes that would relate to building location such as amenity areas or significant viewsheds from the property; and
- v) Conforms to all other provisions of By-law 2004-50.
- vi) Where vacant lots of record comprise less than one hectare, or where less than one hectare of building envelope is available on the property, then the modeling must demonstrate that the building envelope is reasonable.

### **5.26.1 Wind Energy Systems**

The following general provisions apply to all wind energy systems:

- a) Building permits for all small, medium and large scale wind energy systems shall be referred to Transport Canada for obstacle and lighting clearance.
- b) Building permits for wind energy systems shall be referred to the Ontario Ministry of Transportation, whose area of permit control extends 45 metres from the limit of a King's Highway or controlled access highway or within 395 metres of the centre point of an intersection with a King's Highway.
- c) No advertising sign or logo shall be visible on any wind turbine.
- d) The minimum setback from any Provincial Highway, County Road or local road shall be 1.25 times the turbine height.
- e) The minimum interior side yard setback to any wind turbine shall be equal to the length of the turbine blade plus 10 metres.
- f) The minimum rear yard setback to any wind turbine shall be equal to the length of the turbine blade plus 10 metres.
- g) Shadow flicker experienced at any Point of Reception shall not exceed 30 hours per year, modeled based on the astronomically worst case conditions, as a result of the operation of a wind energy system.

#### **5.26.1.1 Micro Scale Wind Energy Systems**

The following provisions apply to micro scale wind energy systems. A micro scale wind energy system:

- a) Shall be permitted in Residential (R, RM, RUR, RS), Agricultural (A1, A2), Rural (RU), Commercial (C1, C2, C3, C4), Institutional (I), Industrial zones (M1, M2), and any other zone where a dwelling is a permitted use.
- b) Shall not exceed 17 metres in height or 10 kilowatts in nameplate generating capacity.
- c) Shall be directly attached to a building except in the Agricultural (A1, A2) and Rural (RU) zones where they may be free standing structures.
- d) Building mounted micro wind energy systems shall be sited so that all parts of the system are located within the yard setbacks or a minimum of 1 metre from any side or rear lot line, whatever is greater.
- e) Free standing micro wind energy systems shall be setback a minimum of the height of the turbine from any interior side yard or rear yard.
- f) Shall not exceed a sound level limit of 45 dBA at the property limit within all settlement areas and 40 dBA at the property limit outside of settlement areas.

#### **5.26.1.2 Small Scale Wind Energy Systems**

The following provisions apply to small scale wind energy systems. A small scale wind energy system:

- a) Shall be permitted in Agricultural (A1, A2), Rural (R), Rural Residential (RUR), Industrial (M1, M2) and Development (D) zones.
- b) Shall require a minimum lot size of 0.6 hectares.

- c) Shall be setback a minimum of the height of the turbine from any interior side yard or rear yard.
- d) Shall not exceed a height of 38 metres and have a maximum nameplate generating capacity of 50 kilowatts.
- e) Shall not exceed a sound level limit of 45 dBA at the property limit within all settlement areas and 40 dBA at the property limit outside of settlement areas.

#### **5.26.1.3 Medium Scale Wind Energy Systems**

Medium scale wind energy systems are not permitted in any zone without a site specific zoning by-law amendment subject to the following minimum setbacks:

- a) The minimum setback to off-site Points of Reception & Sensitive Land Uses shall be 300 metres from any turbine.
- b) The minimum setback to on-site Points of Reception & Sensitive Land Uses from any turbine shall be a distance equal to the height of the turbine.
- c) The minimum setback to a Rural Residential Cluster shall be 500 metres from any turbine. A Rural Residential Cluster shall mean four (4) or more rural residential lots with an average area of 0.8 hectares or less that share a common boundary including lots located directly across a roadway from one another. Measurements shall be taken as the shortest distance between the lot line of the closest lot to a proposed turbine.

#### **5.26.1.4 Large Scale Wind Energy Systems**

The following provisions apply to large scale wind energy systems.

- a) Large scale wind energy systems are not permitted in any zone without a site specific zoning by-law amendment.
- b) Notwithstanding the requirements of 5.26.1 e) and f) of this By-law, a zero (0) metre setback is permitted to the common boundary of participating properties forming part of a multiple large scale wind energy system proposal. For clarity purposes, properties must contain a large scale wind energy system to be considered a participating property.
- c) The minimum setback to off-site Points of Reception & Sensitive Land Uses shall be 300 metres from any turbine.
- d) The minimum setback to on-site Points of Reception & Sensitive Land Uses from any turbine shall be a distance equal to the height of the turbine.
- e) The minimum setback to a Rural Residential Cluster shall be 500 metres from any turbine. A Rural Residential Cluster shall mean four (4) or more rural residential lots with an average area of 0.8 hectares or less that share a common boundary including lots located directly across a roadway from one another. Measurements shall be taken as the shortest distance between the lot line of the closest lot to a proposed turbine.

#### **5.26.2 Solar Energy Systems**

No solar energy system shall be permitted in any zone unless defined as a permitted use and conforms to the following provisions. Large scale solar energy systems are not permitted in any zone without a site specific zoning by-law amendment.

The following provisions apply to small scale solar energy systems:

- a) Small scale solar energy systems shall be permitted in Agricultural (A1, A2), Rural (R), Residential (R, RM, RUR, RS), Recreational Resort (REC), Commercial (C1, C2, C3, C4), Institutional (I) and Industrial (M1, M2) zones.
- b) Shall be building mounted in all Residential (R, RM, RUR, RS) zones.
- c) Shall be building mounted in all zones in settlement areas.
- d) Maximum lot coverage for free standing small scale solar systems shall be 10%.
- e) Maximum height shall be:
  - i. Building height plus 2 metres in all Residential (R, RM, RUR, RS) and the Recreational Resort (REC) zones.
  - ii. Height of building mounted systems in all non-residential permitted zones shall be the permitted building height plus 3 metres.
  - iii. Height of ground mounted systems in all non-residential permitted zones shall be 11 metres.
- f) Interior side yard setback for all ground mounted small scale solar energy systems shall be the principal building setback in the underlying zone less 1 metre.

### 5.26.3 Provisions for Biomass Energy Systems

No Biomass energy system shall be permitted in any zone unless defined as a permitted use and conforms to the following provisions:

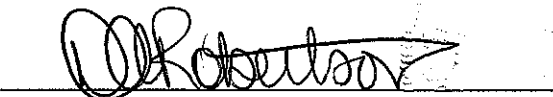
- a) All biomass energy systems require a site specific zoning by-law amendment.
- b) General standards for sites containing a biomass facility include:
  - i. Minimum lot frontage shall be 150 metres.
  - ii. Minimum lot area shall be 20 hectares.
  - iii. Maximum lot coverage shall be 10%.
  - iv. Minimum front yard setback (including outdoor material storage) shall be 55 metres.
  - v. Minimum interior side yard setback (including outdoor material storage) shall be 14 metres.
  - vi. Minimum exterior side yard setback (including outdoor material storage) shall be 20 metres.
  - vii. Minimum rear yard setback shall be 15 metres.
  - viii. Maximum building Height shall be 14 metres except where adjacent to a Point of Reception the maximum height shall be 9 metres.
- c) Outdoor storage areas are subject to the following provisions:
  - i. Maximum outdoor storage shall be 5% of property area.
  - ii. No outdoor storage areas shall be located within the front or exterior side yard.
  - iii. Outdoor storage areas shall maintain the same setbacks as required under the general provisions.
  - iv. The maximum height of outdoor storage shall be restricted to 6 metres.
  - v. Outdoor storage areas will be screened from public exposure by a continuous 2 metre high tight board fence.
  - vi. Outdoor storage areas will be constructed with a stable surface of compacted gravel, asphalt, concrete or other binder and treated to prevent the raising of dust and loose particles.
  - vii. Outdoor storage areas shall not be used for parking.
  - viii. Lighting from outdoor storage areas will be directed away from Points of Reception, roads and public right-of-ways.
  - ix. Stormwater from outdoor storage areas shall be collected and treated in accordance with an approved servicing plan to the satisfaction of the municipality, the Ministry of the Environment and the Conservation Authority. Certificate(s) of Approval will be sought from the Ministry of the Environment under Section 53 of the Ontario Water Resources Act, if applicable.
  - x. Anaerobic digestate storage are subject to MDS setbacks.
  - xi. Certain Biomass systems, such as anaerobic digestion systems are also subject to the requirements of Ontario Regulation 267/03 of the Nutrient Management Act, 2002, which provides specific requirements for the receipt and storage of off-farm materials, the treatment of materials, the storage of outputs (i.e. digestate), and the land application output materials.

3. Schedule "A" and all other notations thereon are hereby declared to form part of this By-law.
  4. This By-law shall come into force and take effect upon being passed by Council subject to any approval necessary pursuant to the Planning Act, R.S.O. 1990, as amended.
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Read a first and second time this 28<sup>th</sup> day of July 2008.

Read a third time and finally passed this 11<sup>th</sup> day of August 2008.

  
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Mayor, Brian Mullin

  
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Clerk, Debbie Robertson

# Municipality of Grey Highlands

## Renewable Energy Site Plan Guidelines

The following guidelines will assist in the review and processing of site plan applications for renewable energy facilities.

1. Detail the requirements of the site plan agreement for each scale of wind energy facility.
2. Site plan approvals will be simplified when specific turbine designs become more popular and have been demonstrated to have little or no impacts. For example, some forms of vertical axis turbines are virtually silent.
3. Public notification signs erected on any property proposing a renewable energy system shall have black printing on a yellow background. Please refer to the notification requirements of Section 7.4.2 of Official Plan Amendment No. 10.
4. Pre-Consultation should occur prior to the submission of Planning Act applications for any new or expanded renewable energy system, which shall include the following:
  - a. Disclosure of all lands subject to the application, the anticipated number, type and location of systems proposed, and the consulting team members.
  - b. Meeting with municipal planning staff for all micro or small scale renewable energy systems.
  - c. Meeting with municipal planning staff and Conservation Authority staff for all medium and large scale proposals. If the project requires an Official Plan Amendment, then the County will be invited to this meeting.
  - d. Deputation to Council for any large scale proposals.
  - e. Meetings or documented discussions First Nations.
5. Graduated site plan process.
  - a. **Exempt:** Approval authority delegated to Staff. An exemption to the site plan control process could be granted subject to receiving and reviewing the following minimum information:
    - i. Site plan (may be hand drawn) but must be to scale illustrating all buildings on the property and on adjacent properties, as well as Points of Reception.
    - ii. Manufacturer's specifications on the renewable energy system. For example:
      - Height
      - Nameplate generation capacity
      - Type of system (i.e. direct drive turbine)
      - Construction materials, mounting and/or foundation details
      - Weight
      - Noise output in db(a) at source based on wind speeds of 4 and 12 metres per second and noise output at maximum and minimum rotation speeds.
      - Rotor rotational speed (wind turbine)
    - iii. Demonstration that the placement and type of renewable energy facility will optimize the use of the resource (i.e. wind speeds and interference). This ensures that the applicant has demonstrated a reasonable understanding of the renewable energy system and the appropriate placement of same.
    - iv. Completion of the Environmental Impact Study Checklist if located adjacent to an area of Natural Heritage significance.

We anticipate that most micro scale renewable energy systems would be exempt from site plan approval provided they are located on properties located outside of settlement areas. Proposals in settlement areas would likely be subject to a

condensed review due to the higher potential of adverse effects on neighbouring properties.

An exemption for Micro Scale and some Small Scale renewable energy facilities could be considered for all locations once the above items have been reviewed to ensure no adverse effects would result from the proposal. The requirement for a site plan agreement could be determined during the review of the application's details and its potential for land use impacts

- b. **Condensed:** Staff shall make a recommendation to Council for consideration of approval. This form of review would utilize a condensed site plan application with the minimum information requirements above in addition to the following:
  - i. Computer generated Site Plan containing property lines, all buildings and structures on-site and off-site on adjacent lands.
  - ii. Noise report.
  - iii. Electrical connection requirements and proposed infrastructure.
- c. **Full:** This level of site plan control would be best suited to medium and large scale renewable energy facilities that have the greater potential for off-site land use impacts. This level of control would require a thorough review, a site plan agreement and approval by Council. Scoping of the application requirements in accordance with the Official Plan policies will be undertaken during pre-consultation. The municipality shall generally require the peer review of any supporting information at the applicant's cost. Exemptions to all or part of the peer review requirements may be considered during pre-consultation based on the nature and scale of the proposal and the extent of any concurrent reviews of the supporting information.

#### 6. Site Plan Checklist

- Is the level of information submitted with the application sufficiently detailed to undertake a review?
- Is the renewable energy system (type/model etc.) familiar to staff?
- Is the renewable energy system commonly installed?
- Is the design of the renewable energy system based on best practice and promote improved technologies?
- Is there the potential for impacts on neighbours?
- Are there any obvious siting problems?
- Is the scale of the project consistent with the size of the house, property and surrounding character?
- Are there potential issues with any supporting infrastructure?
- Would any health, safety or nuisance concerns result from the project?
- Is the property subject to an existing site plan agreement?
- Are securities likely to be required?
- Does the height/location of the turbine relative to property boundaries and Points of Reception have the potential for land use impacts?
- What degree of impacts can be expected with respect to noise, health, safety and nuisance?
- Is there the potential for any natural heritage or environmental features impacted by the proposal?
- Are there site features that complicate the proposal such as topography, access, vegetation, watercourses, steep slopes, existing buildings or structures etc.?
- Will any municipal services or assets be affected by the proposal?
- Has council requested a full review of the application?
- What details would need to be included in the site plan agreement?
- Is the turbine sited to minimize visual impact?

- Is the turbine sited in a location with no environmental constraints?
- Is the maximum sound level of the renewable energy system less than 40 dBA?
- Is the proposal on or near a built heritage resource or Cultural Heritage Landscape?
- Has a clearance letter been received from the electrical provider?
- Is a building permit or electrical permit required?
- Is there potential for any known deposits of mineral aggregate resources to be impacted by the proposal?