

Huron County Master Plan Amendment

Agricultural Preservation & Alternative Energy Resource/Wind Energy Planning

Agriculture: Huron County is recognized for agriculture. There are nearly 1200 farms and almost 430,000 acres of land devoted to farming in Huron County. The average size farm consists of 358 acres and 100 or more farms consist of 1,000 acres or more.

Alternative Energy Resources -Wind Energy Conversion Facilities (WECF): There are some areas of Huron County which by virtue of strong prevailing winds and the absence of extensive development [due to extensive farming activity] are ideally suited for large scale development of wind energy conversions systems [WECF-s].

Agricultural land supports the largest industry in Huron County and, as such, it should be protected from encroachment from non-agricultural uses. A unique opportunity is emerging in Huron County due to the desire to preserve prime farmland and need for alternative energy resources. There is a collaborative goal to indelibly preserve prime farmland and, at the same time, establish a manageable alternative-energy land use policy in Huron County. This goal is to encourage farmland preservation as well as identify locations appropriate for alternative energy resource facilities [i.e., wind energy conversion facilities]. Accordingly, a zoning overlay strategy is proposed, which will identify specific areas of the county where commercial wind turbines (wind farms) can be located and other alternative energy resources developed.

The Huron County Master Plan provides the following statement for developing an Alternative Energy Resources Policy.

Supporting Attributes:

There are physical attributes that support the development of Alternative Energy Resources. That is, these are the areas in the county that can best support this land use notwithstanding the limitations discussed on the next page.

1. **Wind Availability:** The Department of Energy's Wind Program and the National Renewable Energy Laboratory (NREL) recently published a new wind resource map for the state of Michigan. This resource map shows wind speed estimates at 50 meters above the ground and depicts the resource that could be used for utility-scale wind development. As a renewable resource, wind is classified according to wind power classes, which are based on typical wind speeds. These classes range from class 1 (the lowest) the class 7 (the highest). In general, wind power class 4 or higher can be useful for generating wind power with large turbines. Class 4 and above are considered good resources. The map indicates that a large area of Class 3 resource is located in Huron and Sanilac Counties, in the upper thumb of Michigan. Given the advances in wind energy technology, Huron County may have a number of locations in Class 3 areas suitable for utility-scale wind development (electrical generation).

2. **Prime Agricultural Areas:** The existing land use map identifies areas of the County known for agricultural use. A revised map should be developed that refines the selection of sites for those ~~A~~prime~~@~~for preservation. This is an attribute supporting wind turbines and other alternate energy resource development because these areas are more isolated from non-farm uses which, in turn, may increase the financial viability of holding larger tracts of agricultural land. These areas are found throughout a large portion of the county's heartland. To a great extent, these areas have minimal non-agricultural land use patterns and, as such, should be preserved as ~~A~~prime agricultural~~@~~areas.

The supporting factors affect certain parcels to a greater extent than others and some factors have more impact than others. It is the intent of the Agricultural Preservation/Alternate Energy Resource Overlay strategy to take advantage of the existing land use patterns (agriculture), preserving it into the future and encouraging complimentary alternative energy resource development. (Discouraging non-agricultural uses)

Limiting Factors:

Several factors have been identified that clarify the Agricultural Preservation/Alternate Energy Resource Overlay strategy. These factors assist in establishing the overlay areas, with potential sites limited by the following impacting conditions:

1. Tree Cover Areas: Areas of extensive tree cover are less suited to development of alternative energy resources (WECF) because, generally, these areas have less open areas with less wind volume. Encouraging wind turbine development in heavily treed areas may also precipitate removal of existing vegetation to increase the efficiency of the generators. These areas are less suited for agricultural use and, assuming the soil conditions support development, more suitable for residential or other non-agricultural land use.

2. Wetland Areas: Wetland areas are considered environmentally sensitive, and generally speaking, very limited development is planned for these areas.

3. Shoreline Areas: Huron County has 93 miles of Lake Huron shoreline. According to the current (existing) land use map this shoreline area is developed (or proposed) for residential and resort use. As a result, the shoreline area is generally excluded when considering sites for alternative energy resource development.

4. Proximity to Airports: According to information from the Federal Aviation Administration, any tall structure (greater than 200 feet in height) requires FAA approval. Further, towers less than 300 feet above ground level located closer than four nautical miles from an airport are considered an obstruction to air navigation and may require, on a case-by-case basis, obstruction lighting. Obstruction lighting techniques need to be reviewed when located near residential areas due to its negative impact. Therefore, areas within 4 nautical miles of an airport are considered a limitation.

These limitations affect certain parcels to a greater extent than others; likewise, some of these factors are more limiting than others.

Agricultural Preservation/Alternative Energy Resource Overlay Zones

A review of the *attributes* and *limitations* can be used to identify possible overlay areas. The areas which exhibit attributes have potential as agricultural preservation/alternative energy overlay areas. Non-agricultural development (non-farm dwellings, resort development, airports, nearby villages, etc.) and natural features (such as wetlands & heavily forested areas) are factors that limit development of alternative energy resources.

An overlay zoning approach to accommodate the development of alternative energy resources is a planning tool aimed at limiting growth within a designated area. At the same time, the goal is to develop a technique to preserve agricultural land.

To the greatest extent possible, zoning standards for developing alternative energy resources should be based on industry norms and standards.

Development of alternative energy resources, including biomass digesters and similar facilities, should be directed to areas within this overlay zone.