ORDINANCE NO. __________

CITY OF FRANKFORT
BENZIE COUNTY, MICHIGAN
ZONING ORDINANCE AMENDMENT

THE CITY OF FRANKFORT ORDAINS:

Chapter 8, Article 2: Zoning: General Provisions: Section 8207 is added as "Renewable and Alternative Energy" as follows:

8207.01 Intent

The City of Frankfort, along with the State of Michigan, recognizes the importance of developing renewable, sustainable, and alternative energy sources to supplement and/or replace traditional forms of electrical and fossil fuel based electrical power and heat generation.

1. The first step in any program for the creation of any renewable, sustainable or alternative energy is to conserve and most efficiently use traditional and non-traditional energy forms. The objective is to prevent, to the extent possible, the loss of energy, however created, due to poor construction, inadequate insulation or inefficient applications, or appliance utilization.

2. The second step is to utilize and apply the findings of an Energy Conservation Audit conducted by a licensed Energy Audit professional for the building, residence or facility for which the owner seeks to improve energy conservation.

3. Third, is the selection of traditional and/or alternative energy devices that will increase the efficiency and conservation of heating, cooling and ventilation results for the structure(s).

Guidelines and regulations in this section are designed to provide a process of evaluation and assessment that will improve energy use and efficiency, reduce the relative cost of energy for residential and commercial uses, and result in enhanced safety, health and welfare for the residents of the City of Frankfort and its visitors.

8207.02 Land Use Permit for Renewable and/or Alternative Energy Creation and Storage

1. In all zoning districts, a Land Use Permit is required from the City of Frankfort for the erection, attachment or installation of any structure or device for the creation and for the storage of any form of renewable or alternative energy.

2. Each property owner who desires to introduce alternative methods of energy creation and storage through non-traditional and traditional methods must provide evidence of optimum energy efficiency and conservation for all energy-consuming structures on the property. This evidence must be in the form of a comprehensive audit of the building(s) by a licensed Energy Audit professional.

3. The Application for Land Use Permit for Renewable and/or Alternative Energy Creation within the City of Frankfort must be accompanied by:
   a. An original copy of a comprehensive Energy Conservation Audit report produced by a licensed Energy Audit professional, in terms of 8207.03 Energy Audit Requirements (below).
   b. In compliance with the major items for increased energy efficiency and conservation, as identified by the Energy Conservation Audit, a completed labor,
construction and materials receipt demonstrating that the recommended building
improvements have been performed.
c. A follow-up report by the Energy Audit professional identifying the completed
improvement(s), certifying that energy efficiency has been increased, and
identifying what, if any, additional improvements are required to achieve
optimum efficiency for the building(s).

8207.03 Energy Conservation Audit Requirements

The Energy Conservation Audit shall include, at a minimum, the following evaluations
for energy conservation and efficiency in each energy-consuming building:

1. Insulation of ceiling, sidewalls, crawl spaces, and attics to a level to meet County
   Building Code requirements for new buildings of the same type and size.
2. Installation of double glazed windows, or a combination of weatherproof storm
   windows with standard single glass windows, to reduce winter heat loss and/or
   summer heat gain.
3. Installation of replacement doors, storm doors, garage doors and side-doors that fit
   existing openings, reduce heat loss, reduce heat gain, and meet fire code
   requirements.
4. Repair, replacement or conversion of heating and cooling equipment sufficient to
   meet minimum heating and/or cooling requirements, under existing County Building
   Code standards to maintain temperature within the building(s).
5. Repair, replacement or conversion of roofing materials to meet current building
   requirements, snow loads, and water, ice, and wind protection under existing building
   standards.
6. Installation of additional structural support to allow the use of existing building for
   any alternative energy collection structure, e.g. solar panels, wind energy conversion
   equipment or other collection or distribution device(s) are subject to County Building
   Code.
7. Replacement of energy-consuming appliances, [e.g. washing machines, clothes
   dryers, refrigerators, freezers, stoves, ovens, air conditioning, furnaces, geo-thermal
   devices, and other energy consuming devices or equipment, etc] that do not meet the
   Energy Star compliance and certification objectives.
8. Provide sufficient evidence, through receipts, that replacement of lighting, lighting
   fixtures, bulbs, external heating or cooling devices and other energy-consuming
   device(s) with the most energy efficient models available are completed.

8207.04 Basis of Administration and Enforcement

Administrative and Enforcement shall be based on Section 8106.

8207.05 Solar Panels

Solar panels shall be allowed in all zoning districts, attached either to permitted principal or
accessory buildings, or as accessory structures, subject to the following regulations:

1. **Attached to Building.** Where attached to a building, the solar panel(s) shall be subject to
   the same regulations as the building in terms of height and setbacks. Solar panels may be
attached to the building’s roof or the building's wall, but not to both. All electrical connections must be approved, in advance, by County Building Department inspection and must meet County and State of Michigan building standards and electrical safety requirements. All electrical power transmission lines shall be installed in an approved method and travel underground (if necessary) to point of interconnection with utility grid power lines.

a. **Roof-mounted solar panels** shall include solar panels integrated as the surface layer of the roof structure with no additional apparent change in relief or projection, or shall be separate flush-mounted solar panels attached to the roof surface.

i. Solar panels integrated as the surface layer of the roof structure may be located on any part of the roof.

ii. Separate flush-mounted solar panels may only be located on a rear or side-facing roof.

iii. Separate flush-mounted solar panels installed on a building or structure with a sloped roof surface shall not project vertically above the peak of the roof to which attached.

iv. Solar panels mounted on a flat roof shall not project vertically higher than the height of the parapet wall surrounding the roof and the panels shall be screened by architectural features in accordance with Sections 8306, Main Street East, 8307 Main Street West, 8308 Industrial-Entrepreneurial and 8310 Waterfront.

b. **Flush-mounted solar panels** on the building’s wall may be attached to one (1) side or to the rear building façade, and shall not face a front street.

c. **Movable solar panels** that track the location of the sun relative to the panels and are moved by mechanical or manual means, shall be illustrated in the Site Plan materials to demonstrate that the maximum elevation, or depression, from horizontal which shall not exceed the maximum height of the roofline or the minimum height of eight feet above ground below the moveable panel. At no time may any movable solar panel endanger the safety of persons approaching or departing from the building or accessory structure. Solar panels, when fully extended in either direction may not extend closer than six (6) feet of any lot line, during any orientation in relation to the sun.

2. **Free-standing.** Solar panels not attached to a building shall be permitted as accessory structures subject to the regulations at Section 8203.02 Accessory Buildings and to the following additional regulations:

a. Free-standing solar panels are permitted in the rear yard only.

b. Free-standing solar panels shall be set back the minimum feet from the side and rear lot line, as defined at Section 8301.04 General Characteristics of Zoning Districts (Summary Table(s) D & E).

c. Free-standing solar panels shall not exceed the height of an accessory building, as stated at Section 8203.02 Accessory Buildings.

d. The ground surface area covered by a free-standing system shall not exceed **DISCUSSION POINT 6.8 percent (%) of the lot, or 400, 500, 800 square feet, whichever is less.** Area covered shall be included in the lot coverage calculations for the building lot, such coverage limited to 40% maximum. (see Section 8301.04 General Characteristics of Zoning Districts (Summary Table C. Lot Occupation Standards for the Zoning District).

e. All electrical power transmission lines shall be underground.

f. Free-standing solar panel(s), associated mounting structure, and other equipment, shall not be visible from adjacent property and must be protected by restrictive landscaping and/or barrier fencing to avoid harm to any person entering or leaving
the property, including but not limited to locked fencing structures, warning signs on all sides, and locks and/or alarm devices.

3. **Glare.** Solar panels shall be placed and arranged such that reflected solar radiation and/or Glare is not directed onto adjacent buildings, properties or roadways.

4. **Building permit.** Solar energy systems shall conform to applicable industry standards. A Building Permit is required for a solar energy system in accordance with the County and State Building and Electrical Codes. See reference to building standards *Section 8203.08 Dwelling Situated Outside of Mobile Home Park, Minimum Requirements.*

5. **Storage of electricity on site** is subject to specific location limitations to create a safe and secure structure that will not create or increase the explosion or fire hazard and must meet the requirements of the County Building Department and State Regulations for type and number of batteries employed rated as "Storage Batteries". Annual inspection and replacement of defective and/or inoperable batteries at regular intervals is required.

6. ** Decommissioning and removal** of inoperable, damaged and unused solar panels, electrical generating devices and storage batteries is the responsibility of the property owner. Costs associated with removal and disposal of inoperable, damaged and unused solar panels shall be borne by the property owner. Each decommissioning of solar panels, electrical generating devices and storage batteries shall be concluded within one hundred and eighty (180) days of becoming inoperable or unused. Solar panels, other electrical generating devices and storage batteries, that are damaged are a public nuisance and potentially hazardous to public health and safety, and must therefore be removed within two (2) weeks of the date of the damage. When solar panels or other electrical collecting, storage, or generating devices are removed, a County Building Department and City Zoning Administrator inspection must occur to approve the restoration of the original electrical, structural and safety materials and connections.

8207.06 **Outdoor Wood Stoves and Furnaces**

*A Land Use Permit issued by the Zoning Administration is required for the installation of any (i.e., not previously existing) stove or furnace unit that is located outside the principal building where permitted in the Rural, North, East and West Residential and Industrial-Entrepreneurial Zoning Districts. No Outdoor Stoves or Furnaces are permitted in any other zoning district. The Application for a Land Use Permit shall be based on the standards set out in Section 8106. The Site Plan and Land Use Permit application shall also be based on the following standards:

1. **The purpose of the stove/furnace** unit is for the heating air or water for a dwelling, facility, and/or accessory structure(s) on the same lot as the proposed Wood Stove or Furnace.

2. **Isolation Distance from other structures.** The stove/furnace unit shall be **DISCUSSION POINT 10,20,30,40 feet** from any other structure on the lot.

3. **Location.** The stove/furnace unit shall be located no less than the minimum distance from the lot line setbacks as established at *Section 8301.04 E. Setbacks for Ancillary Buildings from all property lines.* The combustion unit and chimney may only be located in a rear yard. The unit shall not be located where smoke will create a nuisance to any neighboring properties.

4. **Isolation Distance.** Once the stove/furnace is located, no ignitable vegetation, fuel or debris may be planted or stored within an area at least **DISCUSSION POINT thirty (30) feet** in diameter around the unit, and within the property setbacks.

5. **Chimney Height.** The stove/furnace unit shall utilize a chimney with a minimum height of fifteen (15) feet above ground level.

6. **Limited Fuel Material.** No fuel or burnable product that could pose a hazard to any person shall be used to create heat. This prohibition includes but is not limited to: any trash, garbage,
plastics, gasoline, rubber, naphtha, material treated with petroleum products (particleboard, railroad ties and pressure treated wood), leaves, paper products, cardboard, styrofoam, etc.

7. **Federal EPA and State EPA Rules.**

   a. All new installations of a furnace/stove unit shall be qualified by the U.S. Environmental Protection Agency (EPA) and the State Department of Environmental Quality (DEQ) as an "advanced furnace device" at the time of installation on the property.

   b. The new installed unit must comply with Phase 2 list of cleaner burning hydronic heaters having a "white tag" indicating that these units are 90% cleaner than unqualified units based on the U.S. EPA voluntary Hydronic Heater and Fireplace Programs Performance Standard; Based on that standard, Annual Average Emission Rate in U.S. EPA (grams/hr) range from 1.5 grams to 10.7 grams for the 37 units listed on the February 8, 2013 updated list. (See [www.epa.gov/burnwise/owhhist.html](http://www.epa.gov/burnwise/owhhist.html) based on the emitted particulate matter in suspension or emitted into the surrounding atmosphere.

   c. An advanced combustion chamber technology or a catalytic converter in working order is required to be maintained for each chimney to eliminate higher amounts of particulate count per hour.

8. **Existing Stoves and Furnaces** : The owner of any stove/furnace unit existing on the date of enactment of this ordinance must within one (1) year bring the unit the unit into compliance with current environmental standards through up-grade or replacement of the original unit. The health, welfare and safety of the general public require compliance with air quality and safety standards for all heat generating units using alternative fuel. Violation of this requirement is a Civil Violation subject to penalty and fine by the City of Frankfort.

9. **Disposal of Ash, Dust, Creosote, and other hazardous materials** created by Stoves or Furnaces and remaining after combustion shall be transported in a closed container to a sanitary landfill or other state certified disposal facility. No public or private land, water or sewer may be used for disposal. Disposal by any means other than those approved methods increases the risk that hazardous materials and substances in post-combustion materials will remain a public safety and health issue. Violation of disposal standards is a civil offense subject to penalty and fine by the City of Frankfort.

END OF EDITS ... BCO 4/2/2013