ALTERNATIVE / RENEWABLE ENERGY DEVELOPMENTS

1. **DEFINITIONS**

In addition to the definitions in the Administration section (Section 6) of this bylaw, the following definitions apply to this Schedule:

Alternative/Renewable Energy, Commercial/Industrial means a use that produces energy (and in some cases other marketable by-products depending on the process utilized) fuelled in ways that do not use up natural resources or harm the environment. Energy may be derived from natural and/or non-traditional sources (e.g. geothermal, solar, water, wind, tides, waste, etc.) and once produced is sold and distributed off-site (commercially) to the marketplace.

Alternative/Renewable Energy, Individual means a use that produces energy that is generated from an alternative or renewable source and that is generally derived from natural and/or non-traditional sources (e.g. geothermal, solar, water, wind, tides, waste, etc.) and is primarily utilized on-site for the sole consumption of the landowner, resident or occupant.

Anaerobic digestion is a series of processes in which microorganisms break down biodegradable material in the absence of oxygen. It is used for industrial or domestic purposes to manage waste and/or to release energy.

Anaerobic digester means a facility or system designed to process animal manure, organic or septic waste, and typically converts what used to be waste, into biogas. The biogas can be used to heat water or create electricity, and may also provide a source of organic fertilizer.

Biodiesel means a clean burning alternative fuel, produced from domestic, renewable resources, such as soy oil and other feedstocks. Biodiesel is made through a chemical process called transesterification whereby the glycerin is separated from the fat or vegetable oil.

Bioenergy means the energy stored in organic matter to generate electricity. This organic matter can include agricultural residues, animal manure, waste wood, wood chips and bark. Bioenergy can be generated in a variety of ways such as Thermal treatment, Anaerobic digestion, Biofuel or Landfill gas.

Biofuel means a fuel derived from biological raw materials or biomass (recently living organisms or their metabolic byproducts, such as manure from cows). It is a renewable energy source and typically, it is considered a fuel with an 80% minimum content by volume of materials derived from living organisms harvested within ten years preceding its manufacture.

Blade(s) means the part(s) of a WECS system that forms an aerodynamic surface and revolves on contact with the wind.

Blade clearance means the minimum distance from grade to the tip of the blade(s) when that tip is at the bottom of a full 360° revolution and pointed down to the ground.

Fermentation is the process of extracting energy from the oxidation of organic compounds.

Gasification is a process that converts organic or fossil based carbonaceous materials into carbon monoxide, hydrogen and carbon dioxide. This is achieved by reacting the material at high temperatures (>700 °C), without combustion, with a controlled amount of oxygen and/or steam.

Geothermal energy means thermal energy that is generated and stored in the Earth.

Grade means the elevation of the developed and finished ground surface at the base of the tower.

Horizontal Axis Nacelle means a WECS on which the axis of the nacelle is parallel to grade.

Mechanical biological treatment system is a type of waste processing facility that combines a sorting facility with a form of biological treatment such as composting or anaerobic digestion. MBT plants are designed to process mixed household waste as well as commercial and industrial wastes.

Meteorological (met) tower is a free-standing tower or a removed mast, which carries measuring instruments with meteorological instruments such as thermometers and wind velocity measurers. Typically, for wind farms these mount anemometers at a range of heights up to the hub height of the proposed wind turbines (up to heights of 80 meters) and they log the wind speed data at frequent intervals (e.g. every ten minutes) for at least one year and often for two or more.

Micro-hydro means a type of hydroelectric power that typically produces up to 100 kW of electricity using the natural flow of water. These installations can provide power to an isolated home or small community, or are sometimes connected to electric power networks.

Municipal Planning Commission (MPC) means a body established by municipal bylaw pursuant to the Municipal Government Act, RSA 2000, as amended, to consider and issue decisions on planning applications.

Nacelle means the part of the WECS that includes a generator, gearbox or yaw motors and other operating parts that is installed at the top of the tower, and to which the blade(s) are attached, and is responsible for converting wind power to energy.

Over Speed Control means a device which prevents excessive rotor speed.

Pyrolysis is a thermochemical decomposition of organic material at elevated temperatures without the participation of oxygen. It involves the simultaneous change of chemical composition and physical phase, and is irreversible.

Rotor's arc means the largest circumferential path travelled by a blade.

Single Wind Energy Conversion System (SWECS) means a single wind energy conversion system developed to generate electrical power for a single landowner for domestic and/or agricultural uses.

Solar Collector, Non-Commercial means a device or combination of devices, structures, or part of a device or structure capable of collecting and distributing solar energy at less than one (1) megawatt for the purpose of transforming the solar energy into thermal, chemical, or electrical energy that will primarily be used to supply utility energy/power to the landowner or occupant. A solar collector may be mounted to a roof or wall of a building or be free-standing (i.e. a solar collector mounted to any structure other than a roof or wall of a building). Any solar collector system that does not meet this definition or exceeds one (1) megawatt in capacity shall be categorized as Solar Collector Farm, Commercial.

Solar Collector Farm, Commercial means a grouping of multiple devices, panels or structures that are capable of collecting and distributing solar energy at one (1) megawatt or greater for the purpose of transforming the solar energy into thermal, chemical, or electrical energy, and typically will tie-in and feed or sell power to the provincial electrical grid transmission or distribution system for off-site consumption. This use includes any associated solar panels, solar modules, supports or racks, inverters, electrical transformers or substations required for the transformation of the solar energy.

Thermal depolymerization (TDP) is a depolymerization process using hydrous pyrolysis for the reduction of complex organic materials (usually waste products of various sorts, often biomass and plastic) into light crude oil. It mimics the natural geological processes thought to be involved in the production of fossil fuels.

Total height means the distance from grade to the tip of a blade when that tip is at the top of a full 360° revolution and is pointed up to the sky.

Tower means the vertical structure that supports the nacelle and the blade(s) above the ground.

Vertical Axis Rotor means a wind energy conversion system where the rotor is mounted on an axis perpendicular to the earth's surface.

Waste-to-Energy (WtE) or energy-from-waste (EfW) is the process of creating energy, typically in the form of electricity or heat, from the incineration of a waste source. Most WtE processes produce electricity directly through combustion, or produce a combustible fuel commodity, such as methane, methanol, ethanol or synthetic fuels. Besides incineration, other WtE technologies may include: gasification, thermal depolymerization, pyrolysis, plasma gasification, anaerobic digestion, fermentation, and mechanical biological treatment.



Wind Energy Conversion System (WECS) means the aggregation of parts, including but not limited to the tower, nacelle and blades that in their aggregate convert wind energy into electrical power.

Multiple Unit Wind Energy Conversion System (WECS) / Wind Farm means two or more WECS on two or more contiguous or non-contiguous parcels of land and approved under a single development permit, or in phases under a single development permit.

2. SOLAR COLLECTORS, NON-COMMERCIAL

- Solar collector(s) attached to a wall or roof of a building are permitted in any land use district as an accessory structure. A development permit is not required (see Schedule 3 Development Not requiring A Development Permit), provided that the placement of the solar collector meets the following requirements:
 - (a) A solar collector mounted on a roof:
 - (i) may project a maximum of 1.22 m (4 ft.) from the surface of the roof and shall not exceed the maximum height requirements of the applicable land use district;
 - (ii) must not extend beyond the outermost edge of the roof;



- (iii) shall be located on the roof in a location and in a manner that does not, in the opinion of the Development Authority, impede access to the roof structure for emergency purposes.
- (b) A solar collector mounted to a wall:
 - must be located such that it does not create undue glare on neighbouring property or public roadways;
 - (ii) must be located a minimum of 2.44 m (8 ft.) above grade;
 - (iii) may project a maximum of 1.52 m (5 ft.) from the surface of the wall, when the wall faces the rear property line, provided that the projection meets the setback requirements of the applicable land use district; and
 - (iv) may project a maximum of 0.6 m (2 ft.) from the surface of the wall when the wall faces the front, secondary front or side property line, provided that the projection meets the setback requirements of the applicable land use district.
- (2) Any and all relevant federal and provincial permits and permissions and Safety Codes Permits that may be required (e.g. building, electrical, gas, etc.) shall be obtained and copies provided to the County.



(3) A free-standing solar collector or a solar collector mounted to any structure other than a roof or wall of a building shall be classified as a permitted accessory use (except for solar collectors listed in subsection 4 below), be required to obtain a development permit and is processed subject to the applicable land use district and the following additional standards:



- (a) A free-standing solar collector or a solar collector mounted to any structure other than a roof or wall of a building must:
 - (i) be located such that it does not create undue glare on neighbouring property or public roadways;
 - (ii) must not exceed 2.44 m (8 ft.) in height above existing grade;
 - (iii) comply with all required setbacks to roadways and property lines in the applicable land use district;
 - (iv) be suitably anchored and secured, to the satisfaction of the Development Authority; and
 - (v) if located in a Hamlet Residential (HR) or Rural Recreational (RR) land use district providing small urban size lots, must not be located in the front or secondary front yard of the principal building.
- (4) Solar collectors which:
 - (a) transmit or distribute power or energy off-site to other parcels/properties; or
 - (b) contain a grouping, or multiple groups, that exceeds an area of 92.9 m² (1,000 ft²);

shall apply for a development permit and are deemed to be a discretionary use (under the listed use as Alternative/Renewable Energy, Individual).



- (5) Where a development permit application is required, the following information shall accompany an application:
 - (a) documentation demonstrating the system is designed to produce energy for the sole use and consumption on-site by the landowner, resident or occupant;
 - (b) manufacturer's specifications for system design and rated output;
 - (c) a site plan showing the location and orientation of the solar collectors;
 - (d) a description of the proposed ground mount design and clearance to the bottom of the collectors and maximum height from existing grade;

- (e) wire service provider (WSP) approval for solar collectors that are proposed to be connected to the provincial power/electrical grid; and
- (f) Alberta Utilities Commission (AUC) approval, where required, for solar collectors that are proposed to be connected to the provincial power/electrical grid.
- (6) All parcels that utilize a solar collector may be required to erect a sign in notifying all emergency responders/personnel of the presence of an "Alternative/renewable energy Source" located on-site. If a sign is required to be erected, it shall be located and designed to any required County specifications and be reasonably maintained for the life of the project (to the satisfaction of the County).
- (7) The location of, and maximum number of solar collectors per parcel, may be regulated by the Development Authority.

3. SOLAR COLLECTOR FARM, COMMERCIAL

(1) Application Requirements

The County may require separate development permit applications for developments occupying multiple parcels of land or phased developments. A development permit application for a solar collector farm, commercial/industrial shall be accompanied following by the additional information:



Note: where Alberta Utilities Commission approval has been applied for or received, a copy of the application submitted to the Commission may be used to satisfy some or all of the following requirements.

- (a) a site suitability analysis including but not limited to: topography, soil characteristics, environmental features and issues, accessibility to a road, compatibility with surrounding land uses, potential impacts to agricultural land and irrigation operations, potential visual impacts, storm water management, and consistency with the policies of the Municipal Development Plan and this Bylaw;
- (b) information regarding setbacks from public roads, property lines and the proximity to structures or uses on the site and adjacent parcels of land;
- (c) detailed information about the system type, number of structures, height of structures, the energy process and rated output, and details on the estimated reflection produced from the solar panels;
- (d) preliminary grading/drainage plan, including a site construction/grading plan with details on proposed management practices for any soil stripping and erosion control, proposed construction haul route;

- (e) access to and any potential impacts to public roads;
- (f) the location of overhead utilities on or abutting the subject parcel and identification of any sensitive, environmental or topographical features which may be present on the parcel;
- (g) decommissioning plan in accordance with Section 4 below;



- (h) plans and methods of weed control and erosion mitigation;
- (i) information regarding setbacks from structures or uses on the subject site to neighbouring residential dwellings and non-residential developments on adjacent parcels of land;
- (j) information regarding general public safety and security measures including site fencing;
- (k) a summary of any public consultation undertaken to date;
- (I) and, if required by the Development Authority, an Environmental Assessment Review prepared by a qualified professional or other studies and reports to demonstrate site suitability and impact mitigation.

(2) **Development Standards**

In addition to the required setbacks and other criteria of the applicable land use district and any other relevant provisions of this bylaw a Solar Collector Farm, Commercial, shall adhere to the following developments standards:

- (a) all surface drainage must be contained on site and any adjacent water bodies must be adequately protected from run-off;
- (b) suitable fencing must be installed to provide security and discourage trespassing;
- (c) spacing of solar collectors must provide access for firefighting of both forage and electrical fires;
- (d) weed control shall be dealt with in a comprehensive manner ensuring adjacent land owners are not negatively affected; and
- (e) solar collectors shall be positioned with a minimum clearance, at the discretion of the Development Authority, so to facilitate the growth of perennial forage to prevent soil erosion.

(3) Siting & Suitability Criteria

In the Rural General (RG) land use district, the applicant shall consider the following criteria when determining the suitability of proposed sites for siting a Solar Collector Farm, Commercial. The Development Authority will also take these criteria into consideration when commenting or making a decision on supporting any such

application being submitted to the AUC, or for a development permit application approval:

- (a) use of the poor quality lowest productive land, dry corners and poor agricultural land is preferred;
- (b) use of cut-off, fragmented, irregular shaped parcels is preferred;
- (c) the use of a primarily unsubdivided quarter-section or agricultural parcels 32.4 ha (80 acres) or greater in size of high quality irrigated agricultural land (land with irrigation rights) that has or could contain irrigation system infrastructure should be avoided;
- (d) environmentally sensitive and environmentally significant areas, including wetlands or intact native grasslands, should be avoided; and
- (e) Solar Collector Farms, Commercial are not to be located within 300 m (984.3 ft.) of an individual residential dwelling on an adjacent parcel, and 750 m (2460.6 ft.) from a boundary of a designated grouped county residential or rural recreational district, hamlet, village or town, as measured from the closest point of the solar collector infrastructure to the adjacent residence, district, hamlet, village or town.

(4) Decommissioning

- (a) Decommissioning and reclamation shall take place in compliance with the applicable provincial standards of the day the site is decommissioned. If no standards are in place at the time of a development permit application, the applicant shall provide a plan outlining how the site will be decommissioned and reclaimed to the site's predevelopment state. The decommissioning plan shall include information on:
 - (i) treatment of footings and wires;
 - (ii) reclamation of roads, driveways, pathways, and other similar disturbances;
 - (iii) notice to be given to land owners and the County;
 - (iv) containment of hazardous materials;
 - (v) site security;
 - (vi) haul routes for disposal materials;
 - (vii) the requirement for solar collector removal after a certain period of inactivity;
 - (vii) discussion of the timetable for decommissioning plan.
- (b) As a condition of development approval, the County may require security, in a form satisfactory to the Development Authority, to ensure the Reclamation/ Decommissioning Plan is implemented and to cover assignment and bankruptcy. The condition may include a periodic review of the security to ensure the amount is sufficient to implement the Reclamation/ Decommissioning Plan.
- (c) Should a Solar Collector, Commercial, discontinue producing power for a minimum of two (2) consecutive years, or two (2) cumulative years over a five (5) year period, the operator shall provide a report on the status of the Solar Collector Farm to the County. A review of the status report by the Municipal Planning Commission may

result in a request for the Solar Collector Farm to be decommissioned. Failure to comply with a decommissioning request may result in the issuance of a stop order by the County in accordance with the provisions of the Act.

(5) Notification & Public Consultation

Upon receipt of a development permit application for a Solar Collector Farm, Commercial, the Development Authority shall review the application for completeness and, prior to making a decision on the application:

- (a) notify adjacent municipalities if the boundaries of the adjacent municipality are within 2 km (1.2 miles) of the proposed development site;
- (b) notify landowners and residents within 2 km (1.2 miles) by mail;
- (c) refer the application to all relevant agencies and government departments (see Section 4(3) of Schedule 5); and
- (d) may require the developer to hold a public information meeting and provide a summary of the meeting.

(6) Conditions of Approval

As a condition of development permit approval for a solar collector farm, commercial, the Development Authority shall consider, in addition to any other conditions authorized under other sections of this bylaw, attaching conditions related to the following:

- (a) require the applicant/developer to enter into a road use agreement and/or development agreement with the municipality;
- (b) place restrictions on the location, height and type of fencing used for the site;
- (c) require the application of approved weed control measures;
- (d) require ground cover to be established prior to solar installation to mitigate erosion;
- (e) stipulate a collector location spacing and minimum clearance from average ground elevation so to allow perennial forage to grow;
- (f) stipulate grading, stockpiling, weed control and soil erosion control measures;
- (g) the provision of an emergency/fire suppression management plan;
- (h) require compliance with applicable decommissioning and reclamation standards of the day, or if no decommissioning and reclamation standards are in place at the time of application, require compliance with a decommissioning/reclamation plan prepared by the applicant to the satisfaction of the Development Authority;
- (i) require that the operation remain in continuous operation and if the operation is inactive for two (2) consecutive years, or two (2) cumulative years over a five (5) year period, the obligation to decommission the site is automatically triggered; and
- (j) the provision of financial security in an amount and type acceptable to the municipality to ensure the decommissioning plan is implemented.

3. WIND ENERGY CONVERSION SYSTEMS (WECS)

(1) Applicability of Standards

The standards outlined below apply to wind energy conversion facilities that feed power back into the general provincial power grid or are distributed to other properties. Generators providing power only to the property on which it is located do not require a development permit.

(2) Single Wind Energy Conversion System (SWECS)

(a) An application for a single WECS may, upon the request of the Municipal Planning Commission, may be required to provide some or all of the information as outlined in Section (c) below.



- (b) The system's tower shall be set back a minimum distance equal to the height of the tower from all parcel lines and a minimum distance of 3.0 m (10 ft.) from any other structure on the parcel on which the system is located if not attached to a structure. In addition the system's tower is set back a minimum distance equal to the height of the tower from any structure on adjoining parcels.
- (c) The system's tower may not exceed a maximum height of 12.2 m (40 ft.) on a parcel of less than 0.4 ha (1 acre), a maximum of 19.8 m (65 ft.) on a parcel of 0.4 ha (1 acre) to less than 2.0 ha (5 acres), and maximum height of 24.4 m (80 ft.) on a parcel 2.0 ha (5 acres) or more.
- (d) No more than one (1) SWECS shall be allowed on a parcel.
- (e) Upon abandonment or termination of the system's use, the entire facility, including the system's tower, turbine, supporting structures and all equipment, shall be removed and the site shall be restored to its pre-construction condition.

MULTIPLE UNIT WIND ENERGY CONVERSION SYSTEMS (WECS) / WIND FARM

(3) Information Requirements

All development applications for multiple WECS / Wind Farm shall be accompanied by:

- (a) a development permit application shall be submitted for each titled parcel;
- (b) an accurate site plan showing and labeling the following:
 - (i) physical dimensions of the property or parcel;
 - (ii) the location of existing structures on the property or parcel;
 - (iii) elevation drawings plan drawn to scale;
 - (iv) foundation plan with specifications;
 - (v) if a non-tubular design is proposed, the anchor design, location of any guy wire anchors, and how the tower is to be secured from unauthorized access or use;
 - (vi) the exact location of each proposed WECS on the property;

- (vii) the location of all existing and proposed utilities and sub-stations on the property or parcel;
- (viii) the location of all existing and proposed utilities on lands abutting the subject property or parcel;
- (ix) existing topography with contours at 3.0 m (10 ft.) intervals of the land;
- (x) existing or proposed access roads;
- (xi) if the WECS is to be developed in stages, a phasing; and
- (xii) proposed setbacks;
- (c) a digital version of the site plan showing exact location and base elevation of each wind turbine in UTM coordinates with NAD 83 datum, Zone 12;
- (d) a visual representation of the multiple WECS / Wind Farm including scale elevations, photographs and/or digital information of the proposed wind farm showing total height, rotor diameter, colour, and the landscape;
- (e) an analysis of the visual impact of the project, especially with respect to the scenic qualities of Vulcan County's landscape. The analysis will include the cumulative impact if other WECS are within 2 km (1.2 miles) of the property or parcel;
- (f) an analysis of the visual impact of above ground transmission lines to and from the property or parcel if above ground transmission lines are proposed for the development;
- (g) the manufacturer's specifications indicating:
 - (i) the WECS rated output in kilowatts;
 - (ii) safety features and sound characteristics;
 - (iii) type of material used in tower, blade, and/or rotor construction;
 - (iv) dimensions;
- (h) an analysis of the potential for electromagnetic interference to other WECS, radio, telephone, wireless, satellite, micro-wave, radar, or other electronic communication systems;
- (i) an analysis of the potential for noise and strobe effect at:
 - (i) the site of the installation,
 - (ii) the boundary of the property containing the development,
 - (iii) any habitable residence within 2 km (1.2 miles) distance;
- (j) an analysis of environmental consideration including roadways, on-site potential for fluid leaks, impact upon wildlife, or any other identified issues;
- (k) the safety plan of the proposal;
- a plan showing ingress and egress from the property or parcel detailing any impacts to the local road system including required approaches from public roads having regard to Vulcan County road standards;
- (m) the results of the historical resource analysis, if required by Alberta Community Development;

- (n) identification of the road or roads to be used to bring construction materials and equipment to the property or parcel, and the road or roads to be used to remove construction materials/debris and equipment from the property or parcel;
- (o) the results of the public consultation process initiated by the developer.

(4) Referrals

- (a) Prior to making a decision on a development application for a WECS, the applicant shall provide the County with the results of the applicant's circulation of their proposal to the following agencies and departments:
 - Alberta Utility Board
 - Alberta Transportation
 - Alberta Sustainable Resource Development
 - Transport Canada
 - Navigation Canada
 - Alberta Culture and Community Spirit
 - Alberta Agriculture, Food and Rural Development
 - Alberta Environment, Wildlife Director for Wind Energy Projects
- (b) The Municipal Planning Commission shall also refer a development application for a WECS to:
 - (i) an adjacent municipal jurisdiction if the boundaries of the municipal jurisdiction are within 2 km (1.2 miles) of the proposed WECS,
 - (ii) landowners within 2 km (1.2 miles) of the proposed WECS.

(5) **Decommissioning**

- (a) Each application shall provide a plan outlining how the site will be decommissioned and reclaimed to the site's predevelopment state and such plan shall include information on:
 - (i) treatment of footings;
 - (ii) reclamation of roads, driveways, pathways, and other similar disturbances;
 - (iii) notice to land owners and the County;
 - (iv) containment of hazardous materials;
 - (v) site security;
 - (vi) haul routes for disposal materials;
 - (vii) discussion of the timetable for the submission of a final decommissioning plan.
- (b) As a condition of development approval, the County shall require an irrevocable letter of credit to ensure the Reclamation/Decommissioning Plan is implemented. The condition may include a periodic review of the letter of credit to ensure the amount is sufficient to implement the Reclamation/ Decommissioning Plan.
- (c) Should a WECS discontinue producing power for a minimum of two (2) years, the WECS operator shall provide a report on the status of the WECS to the County. A

review of the status report by the Municipal Planning Commission may result in a request for the WECS to be decommissioned. Failure to comply with a decommissioning request may result in the issuance of a stop work order by the County in accordance with the provisions of the Municipal Government Act.

(6) Setbacks

- (a) A WECS shall be located not less than the total height of the WECS plus 10.0 m (33 ft.) from the right of way of a highway or municipal road.
- (b) A WECS shall be located not less than twice the total height of the WECS from any dwelling unit.
- (c) A WECS shall be located not less than the total height of the WECS plus 10.0 m (33 ft.) from any building.
- (d) A WECS shall be located not less than five (5) times the total height of the WECS from any dwelling that is located on an adjacent, separately titled property.
- (e) Where, in the opinion of the Municipal Planning Commission the setbacks referred to in Sections (6)(a) through (d) above are not sufficient to reduce the impact of a WECS from a residence, building, public roadway or highway, the Municipal Planning Commission may increase the required setback.

(7) Minimum Blade Clearance

The minimum blade clearance from grade shall be 7.6 m (25 ft.).

(8) **Tower Access and Safety**

- (a) Non-tubular WECS towers:
 - a security fence of not less than 2.4 m (8 ft.) in height, with outward facing barbed wire at the top of the fence and a locking gate shall be installed around a WECS tower and any outlying guy wire anchor points;
 - shall have no ladder or other similar access device installed on the outside of the tower below a point 3.7 m (12 ft.) from grade;
 - (iii) shall have a locking device installed to bar access to the top of the tower.
- (b) Tubular WECS towers:
 - (i) shall have internal access;
 - (ii) shall be secured with a locked door for access at or near grade.

(9) Energy Collection Lines

All energy collection lines on the site of the WECS to the substation or grid shall be underground.

(10) **Quality of Development**

 (a) Unless otherwise required by the Municipal Planning Commission, subject to (10)(b) below, a WECS shall be finished in a non-reflective matte and in a colour which minimizes the obtrusive impact of a WECS to the satisfaction of the Municipal Planning Commission.

- (b) No lettering or advertising shall appear on the towers or blades. On other parts of the WECS, the only lettering shall be the manufacturer's identification or municipal symbol.
- (c) Only new and modern WECS shall be approved.
- (d) Used or recycled WECS shall not be approved.
- (e) All units in the development shall be of a consistent design.

(11) **Public Consultation**

- (a) A developer of a WECS must conduct a public consultation program, at the complete expense of the developer, which provides all landowners and residents within 2 km (1.2 miles) of the property or parcel subject to a WECS proposal the information outlined in Section 3(3).
- (b) The public consultation program shall include one (1) public meeting prior to the application for a WECS being submitted to the County.
- (c) The notice for the public meeting may be made either by mail our or newspaper advertising.
- (d) The written information and developer contacts provided must be the same in the mail out and advertising.
- (e) The information presented at the public meeting and in the mail out/newspaper advertising must address the points in Section 3(3).

(12) Multiple WECS / Wind Farm

- (a) Two or more WECS on a parcel or lot shall be considered a multiple WECS / Wind Farm for the purposes of this bylaw.
- (b) The Municipal Planning Commission may approve multiple WECS / Wind Farm on a case by case basis having regard to:
 - (i) proximity to other immediate land use,
 - (ii) density of WECS,
 - (iii) consideration of the cumulative effect of all WECS approved or proposed within 5 km (3 miles) of the proposal,
 - (iv) underlying utilities,
 - (v) a density of 1 WECS per 4.0 ha (10 acres) of title area.
- (c) Prior to a decision being made by the Municipal Planning Commission, the applicant shall hold a minimum of one (1) public meeting to inform the public on the details of the proposal and to solicit the views and opinions of the public in regard to the application.

- (d) The Municipal Planning Commission may apply to any multiple wind energy conversion system / wind farm any other standards that are provided for in the Land Use Bylaw, including:
 - (i) a condition to enter into a road use agreement with the County to address road maintenance and repairs that may arise from the development;
 - (ii) a condition to post security with the County; and
 - (iii) a condition to allow the developer to register the approved project in phases.

4. OTHER ALTERNATIVE/RENEWABLE ENERGY COMMERCIAL/INDUSTRIAL PROJECTS

All alternative/renewable energy commercial or industrial development projects, such as but not limited to, geo-exchange, micro-hydro, carbon capture and storage, geothermal, microhydro, waste-to-energy, anaerobic digesters, biodiesel, biofuel or fuel cells, require a development permit. This section is specific and applicable to those commercial/industrial development projects whose primary intent and purpose is to sell and/or export energy (or any other by-product of a particular process) off-site.

(1) Information Requirements

- (a) A development permit application shall be accompanied by the following information:
 - (i) an accurate site plan showing and labelling the proposed development and the location of overhead utilities on or abutting the subject lot or parcel, and identification of any sensitive, environmental or topographical features which may be present on the parcel, including canals, streams or water wells;
 - detailed information on the type of facility, structure or system and the energy process involved;
 - (iii) the manufacturer's specifications indicating (if applicable):
 - the rated output in megawatts;
 - safety features and sound characteristics;
 - (iv) any information regarding general public safety;
 - (v) identification of any impacts to the local road system including required approaches from public roads having regard to County standards;
 - (vi) information regarding setbacks from property lines and the proximity to structures or uses on both the site and adjacent parcels of land;
 - (vi)i information or verification of the proposed source of water if required for the type of facility such as an ethanol plant;
 - (viii) a plan outlining how the site will be decommissioned and reclaimed if the use is discontinued;
 - (ix) large commercial/industrial facilities shall submit studies identifying noise, odour and pollutant impacts and how these impacts will be addressed;
 - (x) an emergency response plan;
 - (xi) a summary report of any and all public consultation that was undertaken by the applicant;

- (xii) any or all information (as deemed relevant to a proposed project) as outlined in Section 3(3) of this schedule (Multiple Unit Wind Energy Conversion Systems) for any other type of non-wind energy generating facility; and
- (xiii) any other information as required by the MPC.

(2) Setbacks

- (a) The buildings or structures of a commercial or industrial energy project shall comply with all the property line and public roadway setbacks as established in the district in which the project is proposed.
- (b) In addition to the requirements of Section (2)(a) above, structures or facilities related to waste-to-energy, anaerobic digesters, biodiesel, or biofuels developments shall not be located within:
 - (i) a minimum of 250 m (820 ft.) from any residential dwelling, food establishment or public use facility or building;
 - (ii) a minimum of 120 m (394 ft.) from the boundary or right-of-way of an irrigation district canal, creek, stream, river, lake shore or water body.
 - (iii) the parts of the project related to the transmission lines and associated structures and to the roads, docks, water crossings, culverts, etc. associated with the facility may be allowed within 30 m (100 ft.) of a water body or within the water body itself (to the satisfaction of the County and/or all other federal and provincial departments that may have jurisdiction with respect to a proposed project).
- (c) The MPC may require a larger minimum setback than required as per the above and in the applicable land use district having regard for the location of the development, potential environmental impacts (e.g. air, water – surface and subsurface, soil, etc.), adjacent land uses and any determined natural, scenic or ecologically significant features of the landscape.

(3) Development Application Referrals

- (a) Prior to making a decision on a development application for an alternative/ renewable energy commercial/industrial project, the MPC may refer and consider the input of the following agencies and departments:
 - Alberta Utilities Commission,
 - Transport Canada,
 - NavCanada,
 - Industry Canada
 - Alberta Culture and Community Spirit,
 - Alberta Environment,
 - Alberta Agriculture, Food and Rural Development
 - AESO (Alberta Energy Systems Operator),
 - Alberta Sustainable Resource Development,

- Alberta Transportation (within prescribed distances to provincial roadways),
- any other federal or provincial agencies or departments, as deemed necessary.
- (b) The Municipal Planning Commission shall also refer a development application for an Alternative/Renewable Energy, Commercial/Industrial project to:
 - (i) an adjacent municipal jurisdiction if the boundaries of the municipal jurisdiction are within 2 km (1.2 miles) of the proposed alternative/ renewable energy, commercial/industrial project; and
 - (ii) landowners within 2 km (1.2 miles) of the proposed alternative/renewable energy, commercial/industrial project.

(4) **Development Standards**

Depending on the type of alternative/renewable energy project proposed, the MPC may require that the applicant comply with any or all of the following standards or requirements:

- (a) All surface drainage must be contained on site and any adjacent water bodies must be adequately protected from run-off.
- (b) The applicant is responsible for preparing at their own expense an engineered surface drainage management plan and submitting an application for approval to Alberta Environment, if applicable.
- (c) Any biodiesel waste or water contaminated with biodiesel, is prohibited to be discharged directly into any sewers or surface waters.
- (d) All feedstock and materials are to be stored and contained within buildings, and no outside storage is permitted.
- (e) That the semi-truck traffic used for the hauling and shipment of raw material or feedstock and finished/processed goods associated with the development shall be limited to a designated truck haul route as agreed to or specified by the County.
- (f) The preferred location of alternative/renewable energy commercial or industrial developments is on parcels designated for industrial land use and located in proximity to highways or railway corridors. The MPC may require a parcel redesignation to the applicable industrial land use district be approved prior to accepting a development application.
- (g) The applicant is responsible to apply for any Alberta Environment, AUC, ERCB or other applicable provincial approvals or permits that may be required, and must provide the municipality with a copy to be kept on file.
- (h) The MPC may stipulate any or all of the Section (4) criteria listed above to be addressed by the applicant as a condition of a development permit application approval.

- (i) Any licence, permit, approval or other authorization granted by AUC or ERCB shall prevail over any land use bylaw requirements or development permit decisions or conditions if there is a perceived conflict.
- (j) All energy transmission lines on the site of the energy generating facility to the substation or grid shall be underground unless otherwise approved by the Municipal Planning Commission.
- (k) The Municipal Planning Commission may apply to any alternative/renewable energy generating facility any other standards that are provided for in the Land Use Bylaw, including:
 - (i) a condition to enter into a road use agreement with the County to address road maintenance and repairs that may arise from the development;
 - (ii) a condition to post security with the County; and
 - (iii) a condition to allow the developer to register the approved project in phases.

(5) Site Specific Energy Generating Facilities

Energy generating facilities whose energy is not distributed off of the lot upon which the energy generating facility is located may be approved on a case-by-case basis by the Municipal Planning Commission taking into regard the applicable standards of this bylaw.