Mark-up of Proposed Text Amendment to Zoning Bylaw 12800

Black Font = Existing Text in Zoning Bylaw
~~Strikethrough~~ = Proposed deletion from Zoning Bylaw
Underline & Italicize = Proposed addition to Zoning Bylaw

6.1(89) **Renewable Energy Device** also known as Alternative Energy System or Power Generation Device means a device where energy is derived from sources that are not depleted by using them, these include:

a. **Co-generation** production of electricity and thermal energy from the same source, rejected heat from industrial processes can be used to power an electric generator surplus heat from electric generator can be used for industrial processes or for heating purposes (also referred to as combined heat and power – chp).

b. **District Energy** refers to a group of buildings sharing one energy supply for both heating and cooling (does not produce electricity).

~~c. **Solar-electrical (PV)** Photovoltaic solar panels/modules use the sun's energy to produce electricity. That electricity can be used immediately, stored in batteries for later use or fed back to the electricity grid for use by others.~~

~~d. **Solar Thermal** uses the sun's energy to produce solar hot water. There are two main types of solar hot water systems to choose from: flat plate and tube collectors.~~

*c. **Solar Collector** means a non-reflective device, used to collect sunlight that is used to convert radiant energy from the sun into thermal or electrical energy.*

~~e~~*d*. **Geothermal/Earth Energy** refers to tapping the heat of the earth itself kilometers deep into the earth's crust. This type of energy is also referred to as geo-thermal energy, though geo-thermal usually refers to the energy derived from areas much deeper beneath the earth's surface.

Rationale

Section 6.1(89)
To simplify zoning regulations and in consideration of the likeness in size, appearance and use of Solar-electrical (PV) and Solar Thermal devices, definitions are consolidated under new 'Solar Collector' definition

~~f~~e. **Wind Energy Conversion System** commonly known as Wind Turbines refers to wind power that is produced by the wind turning rotors mounted to a turbine. This energy is converted to electricity which can be used immediately, stored in batteries or fed back onto the power grid.

50.7 Solar Collectors

1. Unless otherwise specified in this Bylaw, Solar Collectors shall comply with the following:

a. in a Zone where the maximum permitted Height is 12.0 m or less:

i. a Solar Collector mounted on the roof of a building may project:

A. a maximum of 0.5 m from the surface of a roof, when located 2.0 m or less from the wall of the building;

B. in all other cases, a maximum of 1.5 m from the surface of a roof;

ii. notwithstanding subsection 50.7(1)(a)(i), a Solar Collector shall not extend more than 1.5 m above the maximum permitted Height of the Zone or Overlay;

iii. a Solar Collector mounted on a roof must not extend beyond the eave or outermost edge of the roof;

iv. notwithstanding Section 44, a Solar Collector mounted to the wall of a building may project a maximum of:

A. 0.6 m into an interior Side Setback, provided a minimum of 0.6 m is maintained between the property line and the Solar Collector; and

B. 1.5 m into all other Setbacks, provided a minimum of 0.6 m is maintained between the property line and the Solar Collector;

v. notwithstanding Section 44, where a Solar Collector is mounted to the wall of a building and projects into an interior Side Setback, the total length shall not exceed one third of the length of the wall it is mounted to; and

vi. where a Solar Collector is mounted to the wall of a building or forms a structural component of a wall, monolithic and monochromatic walls with low aesthetic appeal shall be avoided.

Section 50.7(1)(a)
Separate regulations are proposed for small scale structures in recognition that potential shadowing and massing impacts are greater at this scale of development.

Section 50.7(1)(a)(i)
Projection distance reduced near edge of the roof to mitigate potential shadow impacts and generally align with allowable parapet projection distance for flat roofs (see Zoning Bylaw Section 52.1(b)). Greater projection distance near centre of roof permitted to increase efficiency of Solar Collector and due to diminished shadowing concerns.

Section 50.7(1)(a)(ii)
Align maximum projection height with existing permitted ridge line height regulations (see Zoning Bylaw Section 52.2(c)).

Section 50.7(1)(a)(iv)
Allowable projection into interior Side Setback aligns with existing regulations for similar features. Greater projection into all other setbacks to encourage solar-integrated building design and increase opportunity to capture the sun's radiant energy.

b. in a Zone where the maximum permitted Height is greater than 12.0 m:

i. a Solar Collector mounted on the roof of a building:

A. may project a maximum of 1.5 m from the surface of a roof;

B. must not extend beyond the eave or outermost edge of the roof;

ii. notwithstanding Section 44, a Solar Collector mounted to the wall of a building may project a maximum of 1.5 m into all required Setbacks, provided a minimum of 0.6 m is maintained between the property line and the Solar Collector; and

iii. Section 44(2)(b) shall not apply to a Solar Collector mounted to the wall of a building.

52. Height and Grade

2. In determining whether a development conforms to the maximum Height permissible in any Zone, the following regulations shall apply:

a. in any Zone other than a Residential Zone, the following features shall not be considered for the purpose of Height determination: chimney stacks, either free-standing or roof mounted, steeples, belfries, domes, or spires, monuments, elevator housings, roof stairways, entrances, water or other tanks, ventilating equipment, skylights, fire walls, plumbing stacks, receiving or transmitting structures, masts, flag poles, clearance markers*, Solar Collectors* or other similar erections;

12.2 No Development Permit Required

1. A Development Permit is not required for:

v. A Solar Collector mounted on the roof of a building that:

i. is mounted on a building not listed on the Inventory & Register of Historic Resources in Edmonton;

ii. is located on a Site zoned to allow Single Detached Housing as a Permitted Use, or the RF5 Zone; and

iii. complies with the provisions of this Bylaw;

Section 50.7(1)(a)(v)
Ensure interior side yards remain functional and a reasonable building size/mass is maintained

Section 50.7(1)(a)(vi)
Ensure wall-mounted Solar Collectors are aesthetically pleasing and maintain the character of the approved use.

Section 50.7(1)(b)
Regulations are less restrictive than for smaller scale development in recognition that potential shadowing and massing impacts are less at this scale of development. Avoiding unnecessarily regulating development of solar collectors will contribute to building local energy resiliency.

Section 12.2(1)(v)
Incentivize installation of roof mounted Solar Collectors on small scale residential structures by removing regulatory requirements to obtain a Development Permit.

Replace "solar panels" with "Solar Collectors"

- 13.4(1)(g)(ix), 59.2(14), 910.5(5)(f)(ii), 910.6(5)(f)(i)(B), 910.6(5)(f)(ii)(B), 910.7(5)(c)(ii), 910.8(5)(f)(ii), 910.9(5)(f)(ii), 910.10(5)(f)(ii), 910.11(5)(f)(ii), 997.8(5)(f), 997.8(5)(g), 997.9(5)(e), 997.9(5)(f), 997.10(5)(f), and 997.10(5)(g)

Minor Housekeeping Amendment

12.2 No Development Permit Required

1. A Development Permit is not required for:

~~v~~*w* Urban Gardens and Urban Outdoor Farms that:

i. do not involve buildings greater than 10.0 m2 or Hen Enclosures;

ii. are a Permitted Use;

iii. are located *in the PU Zone or* a Zone where a Residential Use *or the Public Parks Use* is a Permitted Use, except in the CB3 or Downtown Special Area Zones; and

iv. comply with the regulations of this Bylaw;

Section 12.2(1)(w)
Housekeeping amendment to ensure Urban Gardens uses on park sites and in PU zone do not require a Development Permit.