

Background

On 2009-APR-06, Nanaimo City Council adopted "ZONING AMENDMENT BYLAW 2009 NO. 4000.448", which permits sustainable building technologies, such as roof mounted micro wind turbines, photovoltaic cells, solar thermal collectors and green roof infrastructure, to exceed the height limits within the zoning Bylaw.



These sustainable building technologies can exceed twice the allowable height limit in residential zones, and have no height restrictions at all in other zones, provided that the structure does not cover more than 10% of the roof area.



What else is the city doing to promote sustainability?

The City has a number of other sustainability initiatives underway, including:

- New "Green" Development Guidelines are currently being drafted to apply to multi family, commercial and industrial development.
- Burn it smart with the Woodstove Change out Program: learn more about the right way to select, store and burn wood that avoids excess smoke! Trade in your old smokey woodstove for a clean burning model and receive up to \$500 in rebates. Check the City website in October for details.
- An Urban Forest Management Strategy (to be presented to Council in the Fall of 2009) will set new standards in managing the City's forest, vegetation and natural ecosystems.

Interested in learning more? Go to:
<http://www.nanaimo.ca/EN/main/department/Community-Planning/Environmental-Planning/SustainableCity.html>

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SUSTAINABLE BUILDING TECHNOLOGIES

GUIDE TO ZONING



www.nanaimo.ca

What are Sustainable Building Technologies?

The Zoning Bylaw amendment defines sustainable building technologies to mean “structural or technological elements designed to decrease the carbon footprint of a building or structure”. Such features shall include photovoltaic cells, roof mounted micro wind turbines, solar thermal collectors, and infrastructure needed to access and maintain green roofs.

Photovoltaics

Photovoltaics (PV) are flat solar-collecting cells used to convert light directly into electricity. There are no moving parts in PV modules and little maintenance is required. These cells require direct sunlight to be most effective and therefore, while flat, they may have to be raised above the roof peak in order to best capture direct sunlight. Photovoltaic cells are often referred to as solar panels.



Micro Wind Turbines

Micro wind turbines are small-scale turbines that are designed to fit on rooftops and use wind power to turn a rotor, which generates electricity. Unlike larger industrial sized models, micro wind turbines are designed for an urban setting. The noise generated by micro wind turbines is generally lower than conversational noise levels. The micro wind turbine model shown on the right generates 4.5 decibels, whereas normal conversation generates approximately 50 decibels.



The energy savings and how much less carbon a roof-mounted turbine produces are qualified according to size and location of the wind turbine and its wind speed. In a windy location, micro wind turbines are capable of producing enough electricity to power all the lights and small appliances within a home.

Solar Thermal Collectors

Solar thermal collectors absorb sunlight to provide heat. Generally, solar collectors consist of tubes or flat panes which use solar energy to heat a transparent fluid, or air, which is then used to heat a building's airspace and / or water. Like photovoltaic cells, solar collectors are generally flat in shape and require a large surface area to be effective.



Green Roof Infrastructure

A green roof is a roof covered fully or partially by vegetation which can prevent storm water runoff, reduces heating and cooling costs and absorbs carbon dioxide from the air. Examples of acceptable green roof infrastructure include:

tool sheds, materials storage space, stairwells and elevator access.

