TOWN OF COCHRANE POLICY

Policy No.:	**1503-01**
Policy Title:	**Green Building Strategy for Commercial, Industrial, and Institutional Uses**
Approval Date:	**June 24, 2013**
Revision Date:	
Department:	**Development and Infrastructure Services**

Purpose

To continue to build on the Town of Cochrane as a desirable community to live and work, and to capitalize on growth and development potential in accordance with its sustainability goals by encouraging green buildings.

This policy will guide the implementation of green building technologies in Cochrane for new commercial, industrial, and institutional development.

Policy

Implement green building technologies in all new commercial, industrial, and institutional development in Cochrane according to the Green Building Performance Categories & Criteria.

1. Reason for Policy

1.1 Green building practices save energy and water, reduce greenhouse gas emissions, and result in a variety of other environmental, health, social and economic benefits.

1.2 In addition to environmental performance, encouraging green building supports a variety of other community priorities, including:

- Economic development;
- Reductions in energy spending, and protection against rising energy costs;

- Helping industry adapt to upcoming energy performance requirements in the Alberta Building Code, ensuring that Town staff have the capacity to enforce these requirements; and
- Citizen's health and well-being.

1.3 Implementation of a green building policy and procedure will assist administration in fulfilling the Cochrane Sustainability Plan and Municipal Development Plan policy statements.

1.3.1 Related Cochrane Sustainability Plan pathways include:

- Pathway 1, We are a socially responsible and empowered community.
- Pathway 2, We treat water as a precious resource.
- Pathway 3, We use energy responsibly and innovatively.
- Pathway 4, We contribute to the solution on climate change.
- Pathway 5, We consume the bounty of our local economy.
- Pathway 6, Our economy is healthy and diverse.
- Pathway 7, Everyone has an opportunity to pursue their potential in Cochrane.
- Pathway 10, There's enough room for everything a community should have.
- Pathway 12, There are diverse options for getting around.

1.3.2 Related Municipal Development Plan sections include:

- Principle 1: Responsible Growth Management, Goal 4; "Cochrane will be a community that is recognized as a municipal leader in the area of sustainable urban design by supporting developments founded on sustainability principles, innovation, green building technologies, and Smart Growth."
- Environment Policy 6.3.10, Waste Reduction.
- Environment Policy 6.3.12 Reduction of Greenhouse Gases and Air Quality; "The Town shall promote … the implementation of energy reduction initiatives."

- Environment Policy 6.3.13 Environmentally Sustainable Infrastructure; “developers shall design subdivisions and developments that incorporate environmentally sustainable construction standards.”
- Environment Policy 6.3.13 Environmentally Sustainable Infrastructure; “The Town shall develop a framework to direct environmentally sustainable infrastructure expectations.”
- Commercial Goals; “All buildings shall be a minimum of two storeys, encouraging a residential component, unless, at the discretion of the Approving Authority, a green roof and/or combinations of other green building technologies and practices are considered adequate.”

1.4 The Town of Cochrane created an Energy Consumption Reduction Plan and made a commitment in 2007 to reduce Greenhouse gas emissions by 1 tonne per household by 2014 with Partners for Climate Protection.

1.5 Buildings are the source of the majority of Cochrane’s emissions. In 2007, commercial and institutional buildings in Cochrane emitted 29 per cent of the total greenhouse gas emissions in the Town. The residential sector represents 37 per cent and the transportation sector 31 per cent of the total community greenhouse gas emissions. The types of buildings addressed in this policy represent a significant portion of the Town’s existing overall emissions.

1.6 To ensure that Town staff have the capacity to enforce green building requirements by providing clear development expectations and evaluation criteria.

1.7 The policy addresses four key barriers identified by Town staff and stakeholders during the development of the Green Building Discussion Paper:

1.7.1 Split Incentives – some green building techniques cost more up front, but provide long term benefits to occupants. However, land developers have little incentive to pay extra costs associated with green building.

1.7.2 Market Demand – many owners and tenants do not understand the full value of green building in reducing operating costs and improving indoor working environments.

1.7.3 Industry Capacity – developers, designers, engineers, contractors, and trades would benefit from greater green building skills and understanding.

1.7.4 Town Staff Capacity – Town staff would benefit from a richer understanding of green building. This understanding can allow staff to better assess the green merits of proposed developments, more readily approve appropriate green technologies, and properly enforce potentially forthcoming energy requirements in the Alberta Building Code.

2. Related Information

2.1 Green Buildings Discussion Paper, Golder Associates Ltd., 2009-2013

2.2 Green Building Framework – Scoping Research, 2013, Urban Systems

2.3 Canadian Green Building Council

2.4 Zero Waste Framework, Town of Cochrane, 2012

2.5 Water Utility Bylaw 04/2013

2.6 Land Use Bylaw 01/2004

2.7 Surface Drainage Bylaw 13/2005

2.8 Municipal Development Plan Bylaw 07/2008

2.9 Cochrane Sustainability Plan, 2009

2.10 Construction/Demolition Waste Recycling–Municipal Projects, Policy 1501-01

2.11 Community Greenhouse Gas Emissions in Cochrane. Emerald Environmental Ltd., 2007

2.12 Town of Cochrane Partner's for Climate Protection Energy Consumption Reduction Plan , Emerald Environmental Ltd., 2007

3. Definitions

3.1 ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers which develops standards for building performance based on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry.

3.2 Green Building – building and development practices that use an integrated approach to the design, construction, and operation of a residential, commercial, industrial or institutional building in an attempt to optimize energy and water efficiency, to maximize conservation by integrating systems, to minimize waste produced during construction, to improve in-door air quality, to use environmental preferred products, and to encourage the application of alternative energy supply practices. (Source: Canadian Urban Institute. 2008. *Sustainable Building: Canada on the Move.)*

3.3 Greenhouse Gas Emissions – those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds. This property causes the greenhouse effect. Water vapour (H2O), carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4) and ozone (O3) are the primary greenhouse gases in the Earth's atmosphere. (Source: United Nations Environment Programme. 2001. Intergovernmental Panel on Climate Change.)

3.4 Brownfield Development – A brownfield is an abandoned, vacant, derelict or underutilized commercial, industrial or institutional property where past actions have resulted in actual or perceived contamination or threat to public health and safety and where there is active potential for redevelopment. (Source: Federation of Canadian

Municipalities. 2009. *Brownfield Snapshot, Green Municipal Fund*.)

1. Responsibilities

4.1 Town Council to:

4.1.1 Approve by resolution this policy and any amendments.

4.1.2 Consider the allocation of resources for successful implementation of this policy in the annual budget process.

4.1.3 Be guided by the policy when required prior to making a decision.

4.1.4 Recognize the benefits of green buildings.

4.1.5 Serve as an advocate for green buildings.

4.2 Chief Administrative Officer to:

4.2.1 Implement this policy and approve procedures.

4.2.2 Ensure policy and procedure reviews occur and verify the implementation of policies and procedures.

4.3 Director of the Department to:

4.3.1 Ensure implementation of this policy and procedure.

4.3.2 Ensure that this policy and procedure is reviewed every three years.

4.3.3 Make recommendations to the Chief Administrative Officer of necessary policy or procedure amendments.

4.3.4 Recognize the benefits of green buildings.

4.3.5 Serve as an advocate of green buildings.

4.3.6 Ensure employees receive training to implement the policy and procedure.

4.4 Supervisor to:

4.4.1 Understand, and adhere to this policy and procedure.

4.4.2 Ensure employees are aware of this policy and procedure.

4.4.3 Ensure that ongoing monitoring of the effectiveness of the procedure occurs.

4.5 All Employees to:

4.5.1 Understand and adhere to this policy and procedure.

2. Policy Guidelines

Accountability

2.1 Bring forward green building expectations at land use redesignation, subdivision phase, and /or at a pre-application meeting to facilitate pre-planning of green building projects.

2.2 Incorporate the green building performance categories and criteria matrix into the development permit process.

2.3 Implement a review of building performance at the end of construction.

2.4 Monitor the effectiveness of using green building performance categories and criteria.

2.5 Monitor Cochrane's community emissions and energy use.

Continuous Improvement

2.6 Review and refresh the Green Building Performance Categories & Criteria based on industry standards,

Cochrane Sustainability Plan target achievement, and experience with implementation of the criteria.

2.7 Continue moving forward with promoting energy efficiency in the residential sector.

Recognition

2.8 Implement a “Green Leaders” recognition program, whereby applicants offer a series of green building features, guided by a set of green building performance objectives.

2.9 Support third party certification processes for green buildings.

3. End of Policy

	Town of Cochrane Procedure
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1. Green Building Performance Categories & Criteria

1.1 The Green Building Performance Categories & Criteria table will be used by Administration in the evaluation of all commercial, industrial, and institutional development permit applications.

1.1.1 An applicant shall meet the minimum criteria requirements of at least seven (7) categories for acceptance.

1.1.2 The Town shall support the pursuit of a third party certification that meets or exceeds the minimum criteria required in this procedure.

1.2 Post-development evaluation of building performance will occur within the Development Permit process.

1.2.1 All categories and target actions accepted for development permit issuance will be evaluated.

1.2.2 Any documentation required for the evaluation shall be submitted to the Development Officer upon request.

1.2.3 Evaluations may be conducted on site, as needed.

2. Appendix - Attached – Green Building Performance Categories & Criteria

3. End of Procedure

Approval

Julian deCocq, C.A.O.

July 3 2013
Date

Town of Cochrane
Green Building Performance Categories & Criteria

Introduction

The table below provides expectations and evaluation criteria for implementation of the green building strategy policy and procedure for the Town of Cochrane. It is organized into 10 performance categories with 3 Green Leader bonus categories.

To qualify as a "Green Building" in Cochrane the applicant must propose features in 7 of the 10 categories, one of which must be Performance Category 5: Reduce Energy Use and Emissions. Each category has minimum requirements. The category is either fulfilled or not subject to the Development Officer.

To qualify as a "Green Leader" in Cochrane the applicant must meet the minimum requirements above and at least 4 additional Green Leader criteria in 4 separate performance categories. The Green Leader items are in addition to or incorporate and exceed the minimum requirements. Bonus categories criteria can be used to achieve Green Leader status.

Submittal documentation must include the proposed project feature, proposed performance target, name of each accompanying submission reference document, and the professional responsibility as per the following example:

Performance Category	Proposed Project Feature	Proposed Performance Target	Submission Reference Document	Professional Responsibility
1	Naturescaped landscaped area with no irrigation	100% of landscaped area must be naturescaped	A.2 Landscape Plan	Landscape Architect

Detailed supporting documentation to demonstrate how the criteria is or will be fulfilled must be submitted with the Development Permit application, such as but not limited to plans, specification sheets, or specific correspondence.

If the applicant wishes to pursue Third Party Certification instead, submit the rating system, version, target rating, and checklist of proposed features with the Development Permit application. The target rating must meet or exceed the minimum criteria requirements in this procedure. Achievement of a third party certificate rating will be evaluated within the Development Permit process.

Performance Category	CSP Pathway	Minimum Criteria Requirements	Green Leaders Criteria
1. Manage Stormwater Effectively	Pathway 2: We treat water as a precious resource. Pathway 13: We build Cochrane on the strengths of our natural and cultural heritage.	100% of landscaped areas must be naturescaped;	Contain 80% stormwater on site; Install a rain water re-use system; Use of permeable surfaces in non-landscaped areas;
2. Preferred Parking and Bicycle Storage	Pathway 12: There are diverse options for getting around. Pathway 4: We contribute to the solution on climate change.	Bicycle parking area outside; Secure bike storage facilities inside for employees; Preferred parking stalls for carpools, small vehicles, energy efficient vehicles;	1 bicycle stall per 20 parking stalls required by the Land Use Bylaw; On-site showers; Preferred parking stalls for carpools, small vehicles, energy efficient vehicles, electric car charging stations;
3. Reduce Heat Island Effect	Pathway 4: We contribute to the solution on climate change. Pathway 3: We use energy responsibly and innovatively.	75% of the roof must be solar reflective with a target of an index number of 29 and above for steep slope roofing, and 78 and above for low slope roofing;	Achieve a high solar reflective Index #. Some options may include: Install a green roof; Shade paved areas or use light coloured paving surfaces; Use pervious surfaces; Use heat generated on site; SRI rated roofing material;
4. Reduce Light Pollution	Pathway 3: We use energy responsibly and innovatively.	Adhere to Dark Sky Lighting Policy and specifications from suppliers Implement curfew control for non-essential lighting, indoor and outdoor; Minimize backlit signage; No up-lighting on site or on any buildings;	Design outdoor space to achieve an overall lighting density that is 20% below ASHRAE 90.1-2004, Section 9, Table 9.4.5; Design landscaped areas and building facade to achieve an overall lighting power density 50% below ASHRAE 90.1-2004, Section 9, Table 9.4.5; No backlit signage;

Performance Category	CSP Pathway	Minimum Criteria Requirements	Green Leaders Criteria
5. Reduce Energy Use and Emissions	Pathway 4: We contribute to the solution on climate change. Pathway 3: We use energy responsibly and innovatively.	ASHRAE 90.1-2007	ASHRAE 90.1-2007, plus 30% improvement Additional Options Include: Connect to or be district energy ready (reduce demand& increase efficiency); Install waste energy recovery system;
6. Reduce Potable Water	Pathway 2: We treat water as a precious resource.	Water Utility Bylaw 04/2013, plus one of the following options: — commercial low-flow, high pressure pre-rinse faucets; — water-efficient commercial dishwasher (ENERGY STAR); — Ultra-low flush urinals; — Water-efficient commercial laundry facilities.	Water Utility Bylaw 04/2013, plus two options for improvement; Specify high water-efficiency appliances (ENERGY STAR); Install a rain water re-use system; No irrigation;
7. Reduce Solid Waste	Pathway 4: We contribute to the solution on climate change.	Construction Waste Management Plan which includes: identifying haulers, and recyclers, designation of a specific area for recycling during construction, training programs for any on-site workers, and compile metrics of all waste and recycled materials generated/hauled from the site; Minimum of 50% of waste diversion from landfill during construction; Occupancy Waste Management Plan which describes tenant waste diversion opportunities including but not limited items such as: Minimum of 60% waste diversion from landfill during occupancy; Show how occupant will reduce packaging related to their sales and service (Waste Diversion Plan);	Minimum of 75% of waste diversion from landfill during construction; Minimum of 80% waste diversion from landfill during occupancy; In all publicly areas indoor and outdoor spaces provide easily accessible recycling containers (and where applicable organics collection containers); Additional materials to increase diversion: Organics (food waste & landscaping waste); mixed plastic; batteries; light bulbs and ballasts; chemicals and paint; expanded polystyrene etc; Provide recycling or reuse opportunities for “unavoidable waste”, such as ; Paper products including printing/photocopy paper, paper towel and toilet paper – minimum 50% post-consumer recycled content; When applicable implement a reduction strategy

		Installation of a cardboard compactor or cardboard baler (where appropriate) to encourage efficient transportation of materials to market; Install recycling and organics collection systems where the smaller bins are emptied for collection with appropriate capacity; Minimum materials to be accepted through recycling program: cardboard/boxboard; newspaper; mixed paper; mixed plastic; glass; tin cans; metal; beverage containers; Easily accessible dedicated areas for collection and storage of recyclables for public use in store and in parking areas. Minimum materials accepted: Mixed Paper, Beverage Containers; Donate unused or scrap materials during construction to local not-for-profit societies, accordingly.	for single use bags – bag ban or pay per bag program; Reduce store paper use i.e. optional receipt printing; Where applicable provide customers the opportunity to utilize refillable containers for bulk purchases, take - out food and beverage services; Work with vendors to reduce vendor packaging materials; Provide confirmation that an alternative use for used grease at the eating establishment has been investigated (where applicable).
8. Increase Use of Recycled and Local Materials	Pathway 4: We contribute to the solution on climate change. Pathway 5: We consume the bounty of our local economy.	Incorporate the use of recycled or local materials into building construction; Goal of 10% increase in recycled or re-used goods and materials in building construction; Minimum 10% - use of materials with recycled content so that the sum of post-consumer recycled content plus ½ of the pre-consumer content constitutes at least 10 % based on cost, of the total value of the materials in the project. Minimum 20% - use of building materials or products that have been extracted, harvested, recovered and processed within 800 km of the final manufacturing site (see LEED®-ND Certification requirements)	Minimum 20 % - use of materials with recycled content in building construction; Minimum 30 % of all construction materials and services locally sourced.

Performance Category	CSP Pathway	Minimum Criteria Requirements	Green Leaders Criteria
9. Create a Healthy Indoor Environment	Pathway 9: Everyone has an opportunity to pursue their potential in Cochrane.	Meet min requirements of ASHRAE 62-2001, Ventilation for Acceptable Indoor Air Quality	Exceed min requirements of ASHRAE 62-2001, Ventilation for Acceptable Indoor Air Quality, by 20%
10. On-Site Renewables	Pathway 3: We use energy responsibly and innovatively.	2% of total projected energy use derived from on-site renewable energy sources	10% of total projected energy use derived from on-site renewable energy sources

Bonus Categories for Green Leaders Program

11. Sustainability Champion	Pathway 1: We are a socially responsible and empowered community.		Become a Champion of Sustainability with SPUR Tenant Education Plan: Educate all building tenants regarding waste diversion programs, energy efficiency, responsible water use, and celebrate success stories. Actively encourage tenants to be Champions of Sustainability with SPUR themselves.
12. Brownfield Development	Pathway 10: There's enough room for everything a community should have.		Brownfield Development with Environmental Reclamation Program
13. Innovative Building or Site Design	Pathway 3: We use energy responsibly and innovatively.		The Town of Cochrane encourages innovation. The proposal must show advance techniques or applications that meet or exceed the above criteria and describe what additional goals are being achieved from the innovation.