

REGIONAL DISTRICT OF NANAIMO
SUSTAINABILITY SELECT COMMITTEE
THURSDAY, JUNE 12, 2014
2:00 PM

(RDN Committee Room)

A G E N D A

PAGES

CALL TO ORDER

MINUTES

- 2 - 4 Minutes of the Sustainability Select Committee meeting held on Wednesday March 12, 2014.
- 5 - 10 Minutes of the Sustainability Select Committee meeting held on Tuesday May 20, 2014.

BUSINESS ARISING FROM THE MINUTES

COMMUNICATIONS/CORRESPONDENCE

UNFINISHED BUSINESS

REPORTS

- 11 - 25 Carbon Neutral Operations – 2013.
- 26 - 29 Additional Funding for RDN Woodstove Exchange Program.
- 30 - 41 Green Building Outreach Strategy and Implementation Plan.
- 42 - 43 2014 Green Building Series.
- 44 - 68 Update on Overcoming Barriers to Green Buildings.
- Quarterly Energy Update (presentation).

ADDENDUM

BUSINESS ARISING FROM DELEGATIONS OR COMMUNICATIONS

NEW BUSINESS

ADJOURNMENT

IN CAMERA

Distribution: J. Stanhope (Chair), A. McPherson, H. Houle, M. Young, B. Veenhof, J. de Jong, J. Kipp, D. Brennan, M. Lefebvre, D. Willie, P. Thorkelsson, G. Garbutt, C. Midgley, T. Pan, M. Donnelly, J. Pisani, N. Hewitt

J. Fell

For information only: G. Holme, J. Ruttan, B. Bestwick, D. Johnstone, T. Greves, G. Anderson, J. Marsh, T. Graff, F. Manson, J. Hill, C. Golding,

REGIONAL DISTRICT OF NANAIMO
MINUTES OF THE SUSTAINABILITY SELECT COMMITTEE
MEETING HELD ON WEDNESDAY, MARCH 12, 2014 AT 1:30 PM
IN THE RDN COMMITTEE ROOM

Present:

Director J. Stanhope	Chairperson
Director A. McPherson	Electoral Area A
Director H. Houle	Electoral Area B
Director M. Young	Electoral Area C
Director B. Veenhof	Electoral Area H
Director D. Brennan	City of Nanaimo
Director J. Kipp	City of Nanaimo
Director M. Lefebvre	City of Parksville
Director J. de Jong	District of Lantzville
Director D. Willie	Town of Qualicum Beach

Also in Attendance:

Director J. Fell	Electoral Area F
P. Thorkelsson	Chief Administrative Officer
G. Garbutt	General Manager, Strategic & Community Development
R. Alexander	General Manager, Regional & Community Utilities
C. Midgley	Manager, Energy & Sustainability
M. Donnelly	Manager, Water Services
T. Pan	Sustainability Coordinator
N. Hewitt	Recording Secretary

CALL TO ORDER

The meeting was called to order at 1:30 p.m. by the Chair.

MINUTES

MOVED Director Veenhof, SECONDED Director Lefebvre, that the minutes of the Sustainability Select Committee meeting held on Tuesday October 8, 2013 be adopted.

CARRIED

REPORTS

Carbon Neutral Operations -2013

MOVED Director Lefebvre, SECONDED Director Houle, that the report on Carbon Neutral Operations be referred back to staff for technical data analysis and brought forward to the next Sustainability Select Committee meeting.

CARRIED

Green Building Incentives Program 2014

MOVED Director Houle, SECONDED Director Young, that the proposed 2014 Green Building Incentive Program be approved.

CARRIED

Green Building Outreach Program (Presentation)

MOVED Director Brennan, SECONDED Director Kipp, that the verbal report on Green Building Outreach Program be received.

CARRIED

Inter-Regional Education Initiative Progress Report

MOVED Director Lefebvre, SECONDED Director Houle, that Inter-Regional Education Initiative Partnership Progress Report be received for information.

CARRIED

Community Watershed Monitoring Network Update

MOVED Director Kipp, SECONDED Director Houle, that the Committee receive this report for information.

CARRIED

BUSINESS ARISING FROM DELEGATIONS OR COMMUNICATIONS

NEW BUSINESS

RDN Woodstove Exchange Program

MOVED Director Houle, SECONDED Director Veenhof, that staff examine options to provide an additional \$20,000 in funding to the RDN Woodstove Exchange Program.

CARRIED

Provincial Incentive Programs

MOVED Director Veenhof, SECONDED Director Houle, that staff draft a letter to the Province highlighting the benefits of the LiveSmart BC incentive program and the regional implications for reducing Provincial incentive programs.

CARRIED

MOVED Director Veenhof, SECONDED Director Lefebvre, that staff draft a letter to AVICC requesting consideration of a late resolution for UBCM submission concerning an extension to Provincial energy efficiency incentive programs.

CARRIED

Regional Emission Reduction Projects

MOVED Director Veenhof, SECONDED Director Lefebvre, that staff provide an information report to the Sustainability Select Committee on potential Regional Emission Reduction Projects.

CARRIED

MOVED Director Lefebvre, SECONDED Director Kipp, that staff circulate information on viable biomass energy alternatives for the RDN to the Sustainability Select Committee.

CARRIED

ADJOURNMENT

MOVED Director Houle, SECONDED Director Lefebvre, that this meeting be adjourned.

CARRIED

Time 3:05 pm

CHAIRPERSON

REGIONAL DISTRICT OF NANAIMO
MINUTES OF THE SUSTAINABILITY SELECT COMMITTEE
MEETING HELD ON TUESDAY, MAY 20, 2014 AT 3:00 PM
IN THE RDN BOARD CHAMBERS

Present:

Director J. Stanhope	Chairperson
Director A. McPherson	Electoral Area A
Director H. Houle	Electoral Area B
Director B. Veenhof	Electoral Area H
Director D. Brennan	City of Nanaimo
Director J. Kipp	City of Nanaimo
Director M. Lefebvre	City of Parksville
Director D. Willie	Town of Qualicum Beach
Director J. de Jong	District of Lantzville

Also in Attendance:

Director J. Fell	Electoral Area F
P. Thorkelsson	Chief Administrative Officer
G. Garbutt	General Manager, Strategic & Community Development
P. Thompson	Manager, Long Range Planning
C. Midgley	Manager, Energy & Sustainability
N. Hewitt	Recording Secretary

Regrets:

Director M. Young	Electoral Area C
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CALL TO ORDER

The meeting was called to order at 3:00 pm by the Chair.

DELEGATIONS

Lance Nater, re Regional Growth Strategy.

Mr. Nater spoke in opposition of the Town of Qualicum Beach request to amend the Regional Growth Strategy through the minor amendment process. Mr. Nater request that the Committee support Alternative No. 3 of the report, to not proceed.

Scott Tanner, re Proposed Minor Amendment to the Growth Containment Boundary in Qualicum Beach.

Mr. Tanner stated that this amendment is not a minor amendment because a full OCP review has not taken place and due to the scale of the change.

Fox McKinley spoke for Kevin Monahan, re Proposed Expansion of the Growth Containment Boundary in Qualicum Beach.

Representative for Mr. Monahan spoke in opposition of the Town of Qualicum Beach request to amend the Regional Growth Strategy through the minor amendment process because it did not meet the criteria for a minor amendment.

Shanna Mastrangelo, re The Future of Our Land.

Ms. Mastrangelo did not attend the meeting.

Deb McKinley, re The Impact of the Proposed Amendment on the Community of Qualicum Beach.

Mrs. McKinley spoke in opposition of the Town of Qualicum Beach request to amend the Regional Growth Strategy through the minor amendment process as a full review of the OCP did not take place.

Graham Riches, re Responses from the People of Qualicum Beach Regarding the Qualicum Beach Growth Containment Boundary Amendment.

Mr. Riches and Barry Avis spoke in opposition of the Town of Qualicum Beach request to amend the Regional Growth Strategy through the minor amendment process. Mr. Avis raised concerns about wetlands, agricultural lands and forestry land.

Faye Smith, Streamkeepers, re Concerns of Qualicum Beach Streamkeepers for Beach Creek about the possible moving of the Growth Containment Boundary in Qualicum Beach.

Ms. Smith of the Streamkeepers, spoke in opposition of the Town of Qualicum Beach request to amend the Regional Growth Strategy through the minor amendment process due to concerns over increased amounts of development.

Bruce Fleming-Smith, re The Qualicum Beach Growth Containment Boundary Amendment application as it Relates to Sustainability Principles.

Mr. Fleming-Smith spoke in opposition of the Town of Qualicum Beach request to amend the Regional Growth Strategy through the minor amendment process because it does not meet the criteria for a minor amendment.

Michael Jessen, Arrowsmith Parks and Land Use Council (APLUC), re RGS Amendment Request.

Mr. Jessen representing the Arrowsmith Parks and Land Use Council spoke in opposition of the Town of Qualicum Beach to amend the Regional Growth Strategy through the minor amendment process because a full OCP review did not take place.

David Golson, re RGS Amendment Request.

Mr. Golson spoke in opposition of the Town of Qualicum Beach to amend the Regional Growth Strategy through the minor amendment process. Mr. Golson requested that the Committee reject the application as the process used for the OCP review was inadequate.

Luc Sales spoke for John Marsh, Town of Qualicum Beach, re RGS Amendment Request.

Luc Sales presented a verbal and visual overview on the application on behalf of the Town of Qualicum Beach.

LATE DELEGATIONS

MOVED Director Willie, SECONDED Director Lefebvre, that the following delegations be permitted to address the Committee.

CARRIED

Jim Drummond, re Growth Boundary – Town of Qualicum Beach.

Mr. Drummond felt enough of the delegations had spoke in opposition of the Town of Qualicum Beach to amend the Regional Growth Strategy through the minor amendment process.

Zweitse de Wit, re Growth Boundary – Town of Qualicum Beach.

Mr. de Wit spoke in favor of the Town of Qualicum Beach to amend the Regional Growth Strategy through the minor amendment process.

COMMUNICATIONS/CORRESPONDENCE

Peggy Bodnar, re Our Urban Boundary Change.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Peggy Bodnar with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Deb McKinley, re Town of Qualicum Beach GCB Amendment.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Deb McKinley with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Elaine Watson, re Town of Qualicum Beach GCB Amendment.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Elaine Watson with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Hans Kratz, re Qualicum Beach Growth Containment Boundary Amendment.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Hans Kratz with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

David Golson, re Qualicum Beach Council - GCB Amendment.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from David Golson with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Susan Porter, re Qualicum Beach - GCB Amendment.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Susan Porter with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Charna Macfie, re Qualicum Beach Growth Containment Boundary.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Charna Macfie with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Cindy Flowers, re Qualicum Beach Boundary Minor Amendment.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Cindy Flowers with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Brian & Dianne Anderson, re Change of Qualicum Beach Urban Boundaries.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Brian and Dianne Anderson with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Stuart Gautier, re Qualicum Beach Growth Boundary.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Stuart Gautier with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

John Christie, re Qualicum Beach Growth Boundary.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from John Christie with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Denyse Widdifield, re Qualicum Beach Growth Boundary.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Denyse Widdifield with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

R. H. (Bob) Widdifield, re Qualicum Beach Growth Boundary.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Bob Widdifield with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

W Craig Dutton, re Qualicum Beach Growth Boundary.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Craig Dutton with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Dave Bryan, re Qualicum Beach Growth Boundary.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Dave Bryan with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Dean Dreger, re Qualicum Beach Growth Boundary.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Dean Dreger with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Ray & Sue Abermann, re Town of Qualicum RGS Amendment.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Ray and Sue Abermann with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

J.F. Boshier, re Town of Qualicum RGS Amendment.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from J.F. Boshier with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Chris Doyle, re Qualicum Beach Growth Boundary.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Chris Doyle with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Mychal Rodway, re Growth Containment Boundary – Town of Qualicum Beach.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Mychal Rodway with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

Charna Macfie, re Growth Containment Boundary – Town of Qualicum Beach.

MOVED Director Veenhof, SECONDED Director Willie, that the correspondence from Charna Macfie with respect to the proposed minor amendment to the Growth Containment Boundary for the Town of Qualicum Beach, be received.

CARRIED

REPORTS

Request to Amend the Regional Growth Strategy by the Town of Qualicum Beach.

MOVED Director Willie, SECONDED Director Veenhof, that the request from the Town of Qualicum Beach to amend the RGS proceed through the process for approving minor amendments.

CARRIED

ADJOURNMENT

MOVED Director Veenhof, SECONDED Director Willie, that this meeting be adjourned.

CARRIED

Time: 5:08 pm

CHAIRPERSON



RDN REPORT		11
CAO APPROVAL		
EAP		
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JUN 03 2014		
RHD		
BOARD		
990		

MEMORANDUM

TO: Geoff Garbutt
GM, Strategic and Community Development

DATE: June 3, 2014

FROM: Chris Midgley
Manager, Energy and Sustainability

FILE: 6430-05-CNOP

SUBJECT: Carbon Neutral Operations - 2013

PURPOSE

To update the Sustainability Select Committee on progress toward carbon neutral operations for the Regional District of Nanaimo (RDN) for 2013.

BACKGROUND

In 2008, the RDN and member municipalities signed the Climate Action Charter, thereby committing to develop strategies and take actions to achieve carbon neutral operations by 2012. In February 2013, the RDN confirmed that, as local government organizations, the District of Lantzville, the City of Parksville, the Town of Qualicum Beach and the RDN each achieved carbon neutral operations for the 2012 emission inventory year.

This achievement was a result of the RDN organic diversion program, which diverts compostable organic matter from the Cedar Road Landfill to a local composting facility. For every tonne of diverted organic waste, a measurable quantity of emissions is avoided. This is due to the fact that properly composted organic matter produces less methane than organic waste decomposing in the anaerobic conditions of a landfill.

The first full year of region-wide organic diversion was 2011. As such, emission reductions from organic diversion in 2011 and 2012 counted against the 2012 corporate emission inventory.

For 2013, only organic waste diverted in 2013 is available to be counted against the 2013 corporate emission inventory year. In 2013, a total of 2,896 tonnes of organic waste was diverted through the RDN Green Bin program, resulting in 1,490 tonnes of emission reductions. These reductions are shared across participating jurisdictions in proportion to the number of households receiving the service. Table 1 outlines the number of participating households, and resulting reductions apportioned to each jurisdiction participating in the RDN Solid Waste service in 2013.

Table 1: Share of Emission Reductions for Communities Participating in RDN Organic Diversion (2013)

Jurisdiction	Number of Households	Share of 2,896 Tonnes of Diversion	Share of 1,490 Tonnes of Reductions
RDN	16,785	1804 t	928 t
City of Parksville	4,900	527 t	271 t
Town of Qualicum Beach	3,850	414 t	213 t
District of Lantzville	1,406	151 t	78 t

These reductions enable the District of Lantzville and the City of Parksville to achieve carbon neutral operations for 2013. This is not the case for the Town of Qualicum Beach or the RDN. (The City of Nanaimo operated its solid waste service independently from the RDN, and is not evaluated here).

For the RDN, corporate emissions in 2013 amount to 1,236 tonnes CO₂e, while organic diversion resulted in 928 tonnes of reductions. The result is a shortfall of 308 tonnes for the 2013 inventory year (the Town of Qualicum Beach will have an estimated shortfall of 130 tonnes). Appendix 1 provides a summary of the RDN's 2013 corporate emission inventory.

The RDN has an agreement with member municipalities to develop and implement emission reduction projects to make up for this shortfall. This work has progressed over 2013 and 2014, and while there are some projects with a realistic likelihood of generating valid, verifiable emission reductions, as of the reporting deadline of June 2, 2014, none were at a stage where it is possible to count reductions against the RDN or other local government corporate emission inventories. Consequently, the RDN has reported on making progress toward carbon neutral operations. It is anticipated that regional emission reduction projects developed over the remainder of 2014 will contribute to carbon neutral operations for the 2014 emission inventory year.

ALTERNATIVES

There are no alternatives. This report is provided for information purposes.

FINANCIAL IMPLICATIONS

In the approved budget for 2014, each service that consumes energy and generates emissions transferred \$25 into a dedicated reserve account for each tonne of emissions produced. Based on 2012 emissions, staff estimated that the corporate emission inventory for the entire RDN organization would be 1,239 tonnes CO₂e in 2013, after accounting for organic diversion. As such, \$30,975 was transferred to reserve. This estimate proved to be high for several reasons:

1. Actual 2013 emissions were approximately 100 tonnes less than in 2012;
2. The emission factor for electricity for 2012 and 2013 was reduced by 14 grams per kilowatt hour in late 2013 resulting in an overcount of 191 tonnes in 2012 emissions, which was counted against the 2013 emission inventory, and a high initial estimate for emissions from electricity for 2013; and
3. A surplus of 282 tonnes of reductions from 2011-2012 organic diversion not counted against 2012 emissions was subtracted from the 2013 inventory; and

With a net emission inventory of 308 tonnes CO₂e after diversion, instead of the anticipated 1,239 tonnes, \$22,300, or 75% of the original \$30,975 transferred to reserve will be returned to the services that generated emission in 2013.

A second financial implication of reporting on making progress toward carbon neutral operations for the 2013 inventory year is that doing so has ensured that the RDN receives its annual Climate Action Revenue Incentive Program (CARIP) grant. This grant equals the dollar amount spent in the Provincial Carbon Tax. The grant for 2013, received March 31, 2014, after submitting an Interim Public CARIP Report for 2013 amounted to \$112,500. A final report was submitted on June 2, 2014, and is provided here as Appendix 2.

STRATEGIC PLAN IMPLICATIONS

The RDN and member municipalities have taken a cooperative approach to working toward carbon neutral operations by sharing expertise, effort and the beneficial outcomes of participation in the regional organic diversion program. This is an exemplary application of Regional Collaboration – the Board Strategic Priority that aims to ensure that benefits are shared as broadly as possible across the Region.

Working together toward the common goal of carbon neutral operations has strengthened relationships between the RDN and member municipalities and has helped establish a consistent approach to monitoring and reporting corporate emissions in the region.

While the goal of achieving carbon neutral operations was not reached this year, a strong foundation for successful regional emission reduction projects is under development and should yield sustained, long term benefits beginning for the 2014 emission inventory year.

SUMMARY/CONCLUSIONS

As a signatory to the Climate Action Charter, the Regional District of Nanaimo committed to develop strategies and take actions to achieve carbon neutral operations in 2012. This goal was achieved as a result of the RDN organic diversion program operated by the Solid Waste service that diverts organic waste from the Cedar Road Landfill to a local composting facility. For 2012, two years of diversion were counted against a single emission inventory year. This is not the case for 2013. As a result, while organic diversion will still yield carbon neutral operations for the City of Parksville and the District of Lantzville and in fact has resulted in a surplus of reductions for those jurisdictions, the RDN and the Town of Qualicum Beach face a shortfall of 308 and 130 tonnes respectively.

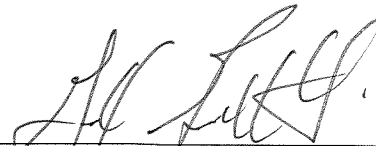
There are no regional emission reduction projects currently at a stage that could yield reductions in time for reporting for the 2013 emission inventory year. It is anticipated that regional emission reduction projects will contribute to carbon neutral operations for the 2014 emission inventory year and beyond.

RECOMMENDATION

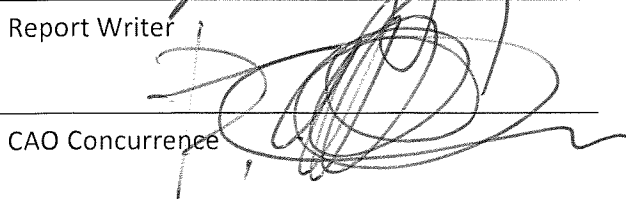
There are no recommendations. This report is for information purposes only.



Report Writer



General Manager Concurrence



CAO Concurrence

Climate Action Revenue Incentive Program (CARIP) Public Report
Climate Action Revenue Incentive (CARIP)
Public Report for YEAR 2013

Regional District of
Nanaimo

Regional District of
Nanaimo



**REGIONAL
DISTRICT
OF NANAIMO**

Report Submitted by

Chris Midgley

Manager, Energy and Sustainability

cmidgley@rdn.bc.ca

March 7, 2014

General Information

Name of Local Government	Regional District of Nanaimo
Member of Regional District (RD)	Regional District of Nanaimo
Regional Growth Strategy (RGS) in region	Yes
Population	146,574

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Community Wide Actions for 2013

1.1 Measure

Community Wide Measurement Actions

Question	Have you been using the Community Energy and Emissions Inventory (CEEI) to measure progress? What else have you been using instead of/in addition to CEEI?
Answer	Yes
Additional Information	In addition the CEEI reports, RDN staff track evolution of the community vehicle fleet composition through data from ICBC, registered IPPs and homes with net-metering and renewable energy systems through data from BC Hydro, the number, type and value of new buildings constructed in the region's electoral areas, emissions from solid waste at the regional landfill, and the number of home energy assessments conducted in the region on an annual basis.

1.2 Plan

Community Wide Targets

Question	Does your OCP(s) have targets, policies and actions to reduce GHG emissions, as per the requirements under the <i>Local Governments Act (LGA)</i> ? If yes, please identify the targets set. If no or in progress, please comment.
Answer	Yes
Additional Information	Each of the 7 Electoral Area OCPs and the Regional Growth Strategy include the target to reduce GHG emissions by 33% from 2007 levels by the year 2020 and 80% from 2007 levels by 2050.

1.3 Reduce

Supportive Community Wide Actions

Action Type	Broad Planning
Actions Taken this Year	Initiated a process to develop targets to achieve key RGS policies; initiated a process to

	develop a Monitoring and Reporting system for RGS Indicators; Completed a study on the viability of RGS Village Centres; Completed an Industrial Land Supply and Demand Study; completed a report on 2012 implementation of the RGS; BOard adoption of 4 regional context statements; developed an implementation plan for the RDN Area Agriculture Plan;; developed a Community Energy and Emission Action Plan to implement the Community Energy and Emissions Plan; continued implementation of the RDN Green Building Action Plan
Proposed Actions for Next Year	Implement Monitoring and Reporting of RGS Indicators; produce an annual report on RGS implementation; continued implementation of the Housing Action Plan; implement Cedar Main Street Plan; implement recommended action from Agricultural Area Plan; Review RGS to ensure support for agriculture, affordable housing and renewable energy; Complete Secondary Sited Review; Initiate amendments to zoning and OCPs to address agriculture, affordable housing and renewable energy

Action Type Building and Lighting	
Actions Taken this Year	Initiated the RDN Secondary Suite Project; Developed a web based resource guide on affordable housing for renters, homeowners and housing providers; ongoing implementation of the RDN Green Building Action Plan; Delivered the RDN Green Building Speaker Series and Open house tours.
Proposed Actions for Next Year	Better integrate consideration of green building practices into zoning bylaws and land use regulations; Continue public seminars on green buildings, renewable energy systems, emissions reductions, and other sustainability topics

Action Type Energy Generation	
Actions Taken this Year	Completed a Renewable Energy Systems Introductory Guidebook for RDN residents
Proposed Actions for Next Year	Better integrate consideration of renewable energy systems into zoning bylaws and land use regulations; create renewable energy system briefs based on the Renewable Energy Introductory Guidebook;

Action Type Green Space	
Actions Taken this Year	Completed Management Plans for Benson Creek Falls Regional Park, Little Qualicum River Regional Park, Moorecroft Regional Park; Completed an Invasive Species Management Plan for Little Qualicum River Estuary Regional Conservation Area; Completed Witch Trail Agreement for Mount Benson Regional Park; secured funding to expand regional trail network; Updated Regional Parks and Trails Guide; Completed a Review of Parks Zoning for

	the Islands Trust; Developed a Community Parks and Trails Plan; Collaborated with the provincial Climate Action Secretariat and the Green Communities Committee on the development of a forest carbon project option for local governments
Proposed Actions for Next Year	Continue to develop partnerships for new park acquisition.

Action Type	Transportation
Actions Taken this Year	Completed the Community Electric Vehicle Charging Infrastructure Planning Project; Updated the RDN Transit Future Plan; Selected as the pilot community for the BC Transit Compressed Natural Gas bus fleet; Digitized the RDN Transit Schedule using QR Codes for instant smartphone accessibility; Implemented a 'Z-card' bike/transit route map in partnership with the City of Nanaimo;
Proposed Actions for Next Year	Compete the RDN Transit Future Plan;

Action Type	Waste
Actions Taken this Year	Prepared the Solid Waste Management Plan Review and Update - Stage 1: Existing System Report; Completed an odour management study for the ICC organic diversion composting site; provided ongoing promotion and education for the commercial food waste disposal ban; Compiled recycling data from licensed facilities to establish 2012 region-wide diversion rate for industrial, commercial, institutional and residential waste generators of 68% with a disposal rate of 350 kg per capita per year; Participated in the National Solid Waste Benchmarking Initiative by collating and submitting curbside program data and attending two workshops; Participated in province-wide consultations on the design and implementation of a provincial stewardship program for packaging and printed paper; Developed an asbestos exposure control plan for the solid waste facilities to protect staff and the public; Reviewed the Landfill Gas Management Plan regarding the landfill gas collection efficiency resulting in a potential collection efficiency of 60% to 65%.
Proposed Actions for Next Year	

Action Type	Water/Sewer
Actions Taken this Year	Completed Water Budget studies for watersheds in the RDN; Completed the Water Conservation Plan study; Continued with the Community Watershed Monitoring program; Launched the Water Use Reporting Tool for use in the RDN; Partnered with our Development Services Department and Agriculture Canada to develop an agricultural water demand model; Completed the final phase of the observation well drilling program in partnership with the Federal and Provincial governments; Completed the Team WaterSmart education outreach program including workshops, community events and

	school visits; Completed irrigation audits with a focus on multi-family units; Completed WellSmart and SepticSmart workshops; Partnered with the Irrigation Association of BC for a training workshop; Completed the 2013 SepticSmart program with 225 people attending workshops throughout the region
Proposed Actions for Next Year	Rainwater / Integrated Watershed Management Plan; Complete a study of Resource Recovery options for Wastewater Services; Update public information on Source Control, Inflow and Infiltration, and Volume Reduction Programs; Develop a sewer servicing strategy for Cedar Village; Implement the Rural Water Quality outreach program

Direct Community Wide Actions

Action Type	Buildings
Actions Taken this Year	Continued use of the Sustainable Builders Checklist; Delivered the 2013 Green Building Incentive Program, with over \$50,000 in incentives provided to regional residents by mid-October
Proposed Actions for Next Year	Continue to deliver green building incentives to residents of the region;

Action Type	Energy Generation
Actions Taken this Year	Continued renewable energy generation at the Greater Nanaimo Pollution Control Centre and the Cedar Road Landfill; Provided financial incentives to resident who install renewable energy systems in single family homes.
Proposed Actions for Next Year	Operate cogeneration facility to utilize 100% of the biogas produced from the site

Action Type	Transportation
Actions Taken this Year	Provide financial incentives to residents who install electric vehicle charging stations in their home; Coordinated the installation of 12 Level II Electric Vehicle charging stations across the region; implemented a 5,000 hour expansion to the conventional transit service, and a 3,750 hour expansion to the custom HandyDart service; completed construction of a compressed natural gas fuelling station for 25 new CNG buses entering the transit fleet in 2014; improved bus shelters in Nanaimo to provide better transit services to high school students;
Proposed Actions for Next Year	integrate 25 new compressed natural gas buses into the RDN Transit Fleet; expand conventional transit by an additional 5,000 service hours, and custom transit by an

additional 3,750 hours; continue to provide financial incentives to residents who purchase electric vehicle charging stations;

Action Type	Waste
Actions Taken this Year	Diverted almost 3,000 tonnes of organic waste from the Cedar Road Landfill to a local composting facility through the curbside organic collection program; completed infrastructure upgrades to better manage water and stormwater at the Landfill; installed a 10,000 m ² interim membrane over Cell 1 at the Landfill to reduce leachate generation and enhance landfill gas capture.
Proposed Actions for Next Year	Complete Nature Park Cell One Phase 1- Detailed Design; continue advanced source separation and organic diversion with the goal of achieving 75% diversion;

Action Type	Water/Sewer
Actions Taken this Year	Beneficially reused 100% of biosolids from the RDN treatment facilities and FCPC effluent at the Morningstar Golf Course; Completed construction on the Digester #3 Expansion project, the fourth sedimentation tank and the biosolids weigh scale at the GNPCC; Expanded the French Creek and Northern Community Sewer Service boundaries; Added additional water sampling stations in most water systems; Carried out the low-flush toilet and rainwater harvesting incentive program.
Proposed Actions for Next Year	Implement recommendations from the RDN Water Budget Report;

Action Type	Green Space
Actions Taken this Year	Completion of the Cedar Skate and Bike Park; Water system upgrades done at Rollo McClay Community Park; Completed the 707 Community Park bank remediation project; provided a Hydro connection for market vendors was added at the Errington Farmers Market allowing for refrigeration and improved public health; official opening of the Henry Morgan Community Park; constructed a pedestrian bridge at Leon Road Community Park; invasive plants were removed, and 1,050 restoration plants were planted in the hydro corridor at Little Qualicum River Regional Park; nineteen unsafe buildings were removed and the sites were restored with over 1,000 native plants at Moorcroft Regional Park;
Proposed Actions for Next Year	Continue to develop the community and regional trail network;

Corporate Actions for 2013

2.1 Measure

Corporate Measurement Actions

Question	What steps has your local government taken toward completing its corporate emissions inventory?
Answer	All energy data monitored, tracked and reported. Major third party contracted emitters provide fuel consumption data on a quarterly basis. Corporate inventory is complete.

Question	What tool are you using to measure, track and report on your corporate emissions?
Answer	RDN purchased access to the SMARTtool, but using SMARTtool has not proved to be an effective use of time. May consider an alternative tool. Excel spreadsheets, financial software (iCity and FWM) are used to track energy purchases and volumes for fuels, BC Hydro and FortisBC websites are used for tracking consumption on a monthly basis.

2.2 Reduce

Supportive Corporate Actions

Action Type	Broad Planning
Actions Taken this Year	Provide interdepartmental support for energy efficiency initiatives and facility upgrades.
Proposed Actions for Next Year	Update Strategic Energy Management Plan to align with corporate goals relating to carbon neutral operations.

Action Type	Building and Lighting
Actions Taken this Year	Continued implementation of the RDN Green Building Policy
Proposed Actions for Next Year	Initiate a facility energy audit program for RDN buildings and facilities.

Action Type	Energy Generation
Actions Taken this Year	
Proposed Actions for Next Year	Explore the feasibility of energy generation and renewable energy systems at regional facilities to counter BC Hydro rate increases.

Action Type	Transportation
Actions Taken this Year	Undertook analysis of fleet use to determine viability of electric vehicles in the RDN pool fleet.
Proposed Actions for Next Year	Continue monitoring fleet vehicle use to identify opportunities for improving fleet efficiency and reducing fleet emissions.

Direct Corporate Actions

Action Type	Building and Lighting
Actions Taken this Year	Disbursed over \$85,000 to corporate energy efficiency initiatives; converted to high efficiency condensing boilers at the Ravensong Aquatic Centre; converted to LED lighting
Proposed Actions for Next Year	Allocate funding to implement recommendations from completed facility energy audits;

Action Type	Energy Generation
Actions Taken this Year	Continued energy generation at the Greater Nanaimo Pollution Control Centre.
Proposed Actions for Next Year	Continued use of eligible funds to support local community based organizations integrate renewable energy systems into facilities.

Action Type	Fleet
Actions Taken this Year	purchased one all electric Nissan LEAF for the staff fleet pool.
Proposed Actions for Next Year	Incorporate a plug in hybrid electric vehicle into the pool fleet. Explore integrating compressed natural gas vehicles into pool fleet; continue to invest in high efficiency and low emission fleet vehicles across all departments.

Action Type	Waste
Actions Taken this Year	continued organic diversion and source separation within the RDN main administration building
Proposed Actions for Next Year	continue organic diversion and source separation within the RDN main administration building

Action Type	Green Space
Actions Taken this Year	
Proposed Actions for Next Year	maintain naturalized low water garden at RDN main administration building. Consider rain garden pilot project at RDN facilities.

Carbon Neutral Progress Reporting

3.1 Carbon Neutral Progress Reporting

Emissions/Offsets	Tonnes CO2e
Annual corporate emissions using SMARTTool or equivalent inventory tool	1236.4
<i>Emissions from services delivered directly by the local government</i>	607.7
<i>Emissions from contracted services</i>	628.7
Less:	928
GHG reductions being claimed for this reporting year from Option 1 - GHG reduction project	
<i>Energy Efficient Building Retrofits and Fuel Switching</i>	
<i>Solar Thermal</i>	
<i>Household Organic Waste Composting</i>	928
<i>Low Emissions Vehicles</i>	
Less:	0
GHG reductions being claimed for this reporting year from Option 2 - GHG reduction projects	
<i>Option 2 Project A</i>	
<i>Option 2 Project B</i>	
<i>Sum of Other Option 2 Projects (if you have added projects below)</i>	0
Less:	
<i>Offsets purchased for this reporting year (Option 3). Please identify your offset provider in the offset provider information section below.</i>	
Balance of corporate emissions for this reporting year. <i>(If the corporate emissions balance is zero, your local government is carbon neutral for this reporting year)</i>	308.4
Additional "Option 2" Projects	
<i>Option 2 Project C</i>	
<i>Option 2 Project D</i>	
<i>Option 2 Project E</i>	
<i>Option 2 Project F</i>	
<i>Option 2 Project G</i>	
<i>Option 2 Project H</i>	

3.2 Making Progress on Your Carbon Neutral Commitment

Question	If your community has not achieved carbon neutrality for this reporting year please describe the actions that you intend to take next year to move you toward your carbon neutral goal.
Answer	<p>The RDN came close to achieving carbon neutral operations for the 2013 emission inventory year as a result of region-wide implementation of curbside organic collection, but fell short by 308 tonnes. Separately, the RDN is involved in a project generating approximately 25,000 tonnes of verified, validated offsets per year at the landfill. Since 2004, the project has delivered over 245,000 tonnes of reductions. Though responsible for operating the landfill gas collection system and managing the solid waste entering the facility, the RDN does not own any offsets generated prior to 2014. The RDN has been in negotiations concerning title to the emission reductions with the current owner, but resolution has not been reached in time for 2013 reporting. Consequently, the RDN will not achieve carbon neutral operations for the 2013 inventory year. It is anticipated that the RDN will retain title to reductions arising from the project by the end of 2014, paving the way for carbon neutral operations for the 2014 inventory year and beyond.</p>



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MEMORANDUM

TO: Chris Midgley
 Manager, Energy and Sustainability

FROM: Ting Pan
 Sustainability Coordinator

SUBJECT: Additional Funding for RDN Woodstove Exchange Program

DATE: June 3, 2014

FILE: 6430-05-GBIP

PURPOSE

To recommend that up to \$20,000 be released from the Regional Sustainability Initiatives Reserve Fund to fund the Regional District of Nanaimo (RDN) Woodstove Exchange Program.

BACKGROUND

At the Sustainability Select Committee meeting held on March 12, 2014, the Committee directed staff to examine options to provide \$20,000 in additional funding to the RDN Woodstove Exchange Program. This direction was in response to a staff report on proposed changes to the 2014 Green Building Incentive Program resulting from reductions in external funding.

The RDN Woodstove Exchange Program provides a \$250 rebate for each woodstove exchange. The Program was established in 2011 as part of the larger RDN Green Building Incentive Program, and has been the most popular among all the incentives offered to the residents of the RDN Electoral Areas and Lantzville. Table 1 shows a summary of the RDN Woodstove Exchange program from 2011 to 2013.

Table 1: 2011-2013 Woodstove Exchange Incentive Summary

Funding Source	Distribution of Incentives		
	2011	2012	2013
RDN	\$10,750	\$21,750	\$24,000
BC Lung Association	0	\$12,000	\$14,500
Total Woodstove Exchange Incentives Disbursed	\$10,750	\$33,750	\$38,500
Total Green Building Incentives Disbursed	\$12,970	\$41,445	\$52,958
Woodstove Rebates as a proportion of total Green Building Incentives	83%	81.4%	72.7%

The amount of funding available for the Green Building Incentive Program in 2014 is limited to the \$20,000 approved for use by the Board from the Building Inspection service. This amount has been held at the same level since 2012. (RDN funding in excess of \$20,000 as shown in Table 1 reflects funding carried forward from previous years.) In previous years, additional external funding was available through the BC Lung Association to support the Woodstove Exchange Program. For 2014, this source of external funding remains unconfirmed. An alternative source to make up for this loss of funding will ensure the program remains available for residents of the RDN over the course of 2014.

Potential Funding Source

The Regional Sustainability Initiatives Reserve Fund is a potential funding source to support the Woodstove Exchange Program in 2014. The Fund was established in 2010 out of a contribution from the Provincial Strategic Investment Fund to implement regional sustainability initiatives that support local economic development. The original amount placed in reserve was \$94,700, and is intended to provide project support to the Energy and Sustainability Department as approved by the Board. Presently, \$89,805 is available in the Reserve Fund.

Each woodstove rebate represents a twofold benefit to the local community. Firstly, the incentives provide a direct contribution toward more efficient use of a renewable resource for energy, resulting in reduced particulate matter pollution and improved air quality. In addition, the funding that supports the program ultimately goes to local businesses that sell and install woodstoves, generating economic spin-off benefits to the regional economy.

Accessing \$20,000 from the Regional Sustainability Initiatives Reserve Fund to support the Woodstove Exchange Program is therefore consistent with the intent of the Fund to support local economic development. If released, almost \$70,000 will remain in reserve for future initiatives.

It should be noted that funding from the BC Lung Association could become available in 2014. If so, staff will pursue that opportunity as well.

ALTERNATIVES

1. Approve the release of up to \$20,000 from the Regional Sustainability Initiatives Reserve Fund to support the RDN Woodstove Exchange Program in 2014.
2. Do not approve the release of the funds, or provide alternate direction to staff.

FINANCIAL IMPLICATIONS

If Alternative 1 is approved, \$20,000 will be available specifically for the RDN Woodstove Exchange Program, in addition to the \$20,000 already approved by the Board for the larger Green Building Incentive Program. This will ensure that a popular program continues for regional residents and businesses.

With that amount, the total value of green building incentives available over 2014 will be \$40,000. If the Provincial woodstove exchange program is reinstated during 2014, and the full \$20,000 is not necessary, only the amount needed will be withdrawn from reserve.

Presently, the funds held in the Regional Sustainability Initiatives reserve amount to \$89,805. Allocating funds from this reserve will meet the needs of the Woodstove Exchange Program with no new impact on regional taxpayers. If the full \$20,000 is accessed, the Regional Sustainability Initiatives reserve will be reduced to \$69,805 at the end of 2014.

STRATEGIC PLAN IMPLICATIONS

Since its establishment, the RDN Woodstove Exchange Program has facilitated a total of 305 woodstove exchanges. Table 2 below shows the distribution of the rebates in Electoral Areas and the District of Lantzville.

Table 2: 2011-2013 Woodstove Exchange Rebates Distribution

Area	Number of Rebates
A	48
B	47
C	18
E	42
F	50
G	31
H	36
Lantzville	33
Total	305

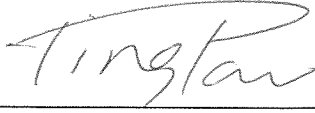
The Program promotes the purchase of high-efficiency EPA-certified woodstoves, which provides several tangible benefits to the residents and the community at large. It reduces air pollution, especially PM2.5 (particulate matter less than 2.5 microns in diameter), commonly associated with respiratory problems; it improves energy efficiency by reducing the amount of wood needed to provide the same amount of heat; and the Program also creates economic benefits to the region. For every dollar invested in the Program, residents invested an estimated seven dollars into the purchase of the products and services supporting the participating local retailers.

SUMMARY/CONCLUSIONS

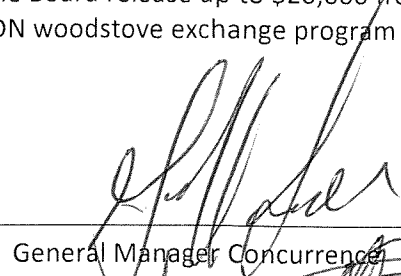
Unlike prior years, the Province of British Columbia is not likely to provide financial support for woodstove rebates in 2014. This represents a significant loss of revenues to support the RDN Green Building Incentive Program. At the Sustainability Select Committee meeting held March 12, 2014, the Committee directed staff to identify an alternative funding source to provide \$20,000 toward the RDN woodstove exchange program. The Regional Sustainability Initiatives Reserve Fund was established in 2010 out of a contribution from the Provincial Strategic Investment Fund to support sustainability initiatives that contribute to local economic development. The Woodstove Exchange Rebate is the most popular green building incentive offered by the RDN, and encourages investment in renewable energy systems while supporting local businesses across the region. There is sufficient funding held in reserve to support the Woodstove Exchange Program for 2014. If the full \$20,000 is accessed over 2014, \$69,805 (plus interest accrued) will remain in reserve for future initiatives. If provincial funding for woodstove rebates comes available in 2014, staff will apply, reducing the need to access the Regional Sustainability Reserve Fund.

RECOMMENDATION

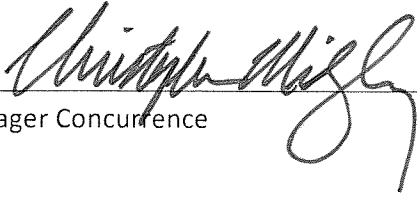
That the Sustainability Select Committee recommend the Board release up to \$20,000 from the Regional Sustainability Initiatives Reserve Fund to support the RDN woodstove exchange program in 2014.



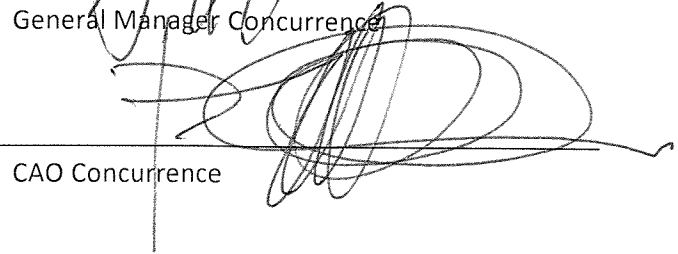
Report Writer



General Manager Concurrence



Manager Concurrence



CAO Concurrence



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MEMORANDUM

TO: Chris Midgley
Manager, Energy and Sustainability

DATE: May 28, 2014

FROM: Ting Pan
Sustainability Coordinator

FILE: 6430-05-GBOS

SUBJECT: Green Building Outreach Strategy and Implementation Plan

PURPOSE

To present the *Green Building Outreach Strategy and Implementation Plan: 2014 -2015*.

BACKGROUND

A key component of the *RDN Green Building Action Plan* is to undertake outreach and educational activities. The purpose of these activities is to provide local residents, homeowners and development practitioners with information to inspire residents to take action. Since 2010, the RDN has been actively promoting efficient use of natural resources in construction, alternative energy systems and high-performance buildings through a variety of activities including:

- Hosting annual Green Building Series including presentations, workshops and guided tours;
- Producing a Green Building Guidebooks Series;
- Providing Green Building incentives;
- Developing online presentations and videos; and
- Developing a new outreach portal on the RDN website.

Through these activities, a wealth of local knowledge on green buildings has been developed and shared. The events have also become a venue for staff to solicit ideas and learn about the needs, desires and expectations of regional residents. Many participants in the RDN’s previous green building outreach programs have taken action, resulting in examples showcased in subsequent green building tours and videos. Notwithstanding the success of the program to date, staff observed that it is necessary to deploy new communication tools and strategies to engage a wider audience and increase the reach of the program.

To be most effective at driving action, a Green Building Outreach Strategy and Implementation Plan based on staff training in public engagement is proposed for 2014-2015, and is provided here as Appendix 1. The strategy is intended to follow an established method to activity design and evaluation referred to as *Fostering Sustainable Behaviour*, developed by Canadian environmental psychologist Dr. Doug McKenzie Mohr. The method is a systematic approach that consists of the following steps:

1. Reach the Right Audience
2. Select Actions for Each Stakeholder Group
3. Identify Barriers and Benefits
4. Develop Strategies
5. Test
6. Evaluate

Each step is explained and connected to specific actions for the 2014-2015 period in the appended Plan.

ALTERNATIVES

1. Endorse the 2014-2015 Green Building Outreach Strategy and Implementation Plan.
2. Do not endorse the 2014-2015 Green Building Outreach Strategy and Implementation Plan, and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

The development and implementation of effective outreach strategies falls within the general roles and responsibilities of Energy and Sustainability staff, covered by the requisitions that support the department. Developing this Plan represents an effort to apply investment in professional development courses relating to outreach and communication with the expectation that the lessons learned through course work and materials translates to on-the-ground success with higher participation rates in green building program activities for a wider range of stakeholders, thus improving the overall impact of program delivery.

STRATEGIC PLAN IMPLICATIONS

The Board Strategic Plan seeks to improve the resilience and self-sufficiency of RDN communities. Improving the efficiency of new and existing homes is a strong step toward that goal; residents and homeowners have the ultimate power to make that happen.

More effective outreach on green building practices is intended inspire more actions on the ground. Those actions will translate into energy savings, improved well-being of residents, healthier ecosystems, increased renewable energy generation, and more local businesses and sales in the green building sector.

SUMMARY/CONCLUSIONS

A Green Building Outreach Strategy and Implementation Plan has been developed to provide guidance on improving the effectiveness and impact of green building outreach activities. The strategy follows an established series of steps designed to improve the effectiveness of current outreach practices: 1) Reach the right audience 2) Select actions 3) Identify barrier and benefits 4) Develop strategies 5) Test and 6) Evaluate.

The Implementation Plan follows the steps outlined above to analyze barriers and benefits to specific stakeholder groups and then to develop implementation strategies. The Plan provides the foundation for outreach activities for 2014 and 2015, based on committee feedback, ongoing research, communication with local stakeholders and RDN departments.

RECOMMENDATION

Endorse the 2014-2015 Green Building Outreach Strategy and Implementation Plan.



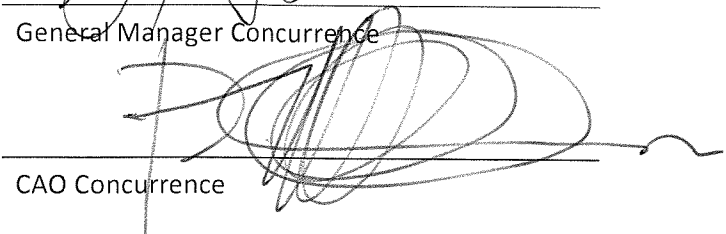
Report Writer



General Manager Concurrence



Manager Concurrence



CAO Concurrence

Background

A key component of the RDN Green Building Action Plan 2010 is to undertake outreach and educational activities in the region. The purpose of these activities is to provide information that will inspire residents to take action to improve their homes. Since 2010, the RDN has been actively promoting efficient use of natural resources in construction, alternative energy systems and high-performance buildings through a variety of activities including:

- Hosting annual Green Building Series including presentations, workshops and guided tours;
- Producing a Green Building Guidebooks Series;
- Providing Green Building incentives;
- Developing online presentations and videos; and
- Developing a new outreach portal on the RDN website.

Through these activities, a wealth of local knowledge on green buildings has been developed and shared, and the events have become a venue for staff to solicit ideas and learn about the needs, desires and expectations of regional residents. Many participants have taken action, resulting in some great examples subsequently showcased in RDN green building tours and videos. To continuously improve and increase the reach of the program, this strategy identifies new tools to engage a wider audience.

Outreach Strategy

This strategy is intended to increase public participation in green building initiatives, which in turn supports the overall goal of the green building action plan: to increase the number of green buildings in the region.

It follows an established method for program design and evaluation to identify gaps in existing programs, to focus on action and results, and to implement innovative solutions. The 2014-2015 green building outreach strategy follows the steps outlined below:

1. Reach the Right Audience;
2. Select Actions for Each Stakeholder Group;
3. Identify Barriers and Benefits;
4. Develop Strategies;
5. Test; and
6. Evaluate.

Each step is further elaborated below.

1. Reach the right audience

Traditionally residents and homeowners are the primary audience and focus of the program activities. There are many other stakeholders in retrofits and new home constructions. In the order of impact, there are:

- Homeowners and owner builders
- Developers
- Builders and contractors
- Realtors
- Suppliers
- Technical advisors and professionals
- Professional organizations and community groups

Each stakeholder group has a unique role to play in residential construction and renovation, and each has varying degrees of influence over the outcome. Their time, interest and level of investment in a project will inform how they are approached and engaged.

2. Select actions for each stakeholder

Each group of stakeholders can do a range of things to influence the targeted outcome. Selecting clear and specific actions appropriate for each group of stakeholders breaks down the outreach effort into manageable tasks and avoids sending an overwhelming or unclear message to each stakeholder. For example, a homeowner could be encouraged to invest in a renewable energy system, a developer could commit to building and marketing high-performance homes, or realtors could learn to better inform potential buyers and sellers of the energy features of a home.

3. Identify barriers and benefits

Once an action is targeted, it is necessary to identify the barriers and benefits to that action. Homeowners may not adopt the desirable action for a variety of reasons such as a lack of knowledge, motivation, technical assistance or financial resources. They may also see the benefits of living in a green home, such as better health, comfort, reduced utility costs, self-satisfaction and respect from others. Unless the barriers can be addressed and benefits realized, homeowners are unlikely to act.

4. Develop strategies

There are a variety of strategies that have been shown to influence actions. Once specific barriers to an action are identified, an appropriate strategy or combination of strategies should be considered to address those barriers. It is possible and desirable to tackle several barriers with one strategy. It is also worth noting that not all strategies are used to address the same barrier. Table 1 below shows several useful strategies and the barriers they could help address.

Table 1: Strategies and Barriers

Strategies	Descriptions	Barriers
Build Commitment	Seek voluntary commitment to enhance motivation.	Lack of motivation
Peer Influence	Highlight desirable actions occurring in the community to build community support.	Lack of motivation Lack of social pressure
Show Leadership	Highlight community leaders and early adopters that set examples.	Lack of knowledge
Use Prompts	Use reminders in close proximity to the desirable action.	Forget to act
Effective Communication	Use vivid captivating information and credible sources.	Lack of knowledge
Provide Incentives	Provide incentives (or disincentives) to encourage (or discourage) a specific action.	Lack of motivation
Convenience	Make it easy to act.	Various structural barriers

5. Test

If the proposed strategy is a new idea, it is often helpful to create a pilot project and test the idea on a small scale before broad scale implementation. Some strategies may involve minimal risk and cost, therefore testing may not be necessary. However, if the stakes are high, piloting and making adjustments according to test results would be critical to a strategy's success.

6. Evaluate

Whenever possible, evaluate activity outcomes rather than outputs. Outcomes refer to specific actions taken as well as measurable, on-the-ground results (i.e., reduced water use, more green buildings, etc.). Outputs refer to such things as the amount of money spent, brochures distributed, number of events hosted, etc. which typically do not have a direct relationship with the impact. Although it is still necessary to track outputs, they should not be used as the only metrics to evaluate an activity.

Implementation Plan 2014-2015

The 2014-2015 Implementation Plan follows the Outreach Strategy outlined above. The Plan provides the foundation for outreach activities for 2014 and 2015, based on committee feedback, ongoing research, communication with local stakeholders and RDN departments.

Stakeholder Groups

Although there are many stakeholder groups and actions to choose from, the selected stakeholders and actions in this Plan reflect the most impactful options that are considered feasible with available staff and financial resources for the coming year. Homeowners and owner builders will always be the primary audience. Other stakeholders and actions will be identified and focused on when opportunities and resources become available.

The first section of this plan identified desired outcomes. The second section highlights more general communication strategies.

1) Desired Outcome: Increased Participation in the RDN Green Building Series

Targeted Stakeholders: Homeowners and owner builders

Selected Action: Participation in RDN Green Building Series events

Barriers

- A. Not aware of the events
- B. Lack of interest
- C. Scheduling conflicts
- D. Physical distance or mobility challenge
- E. Time commitment

Benefits

- a. Increased knowledge about green buildings
- b. Useful contacts
- c. Questions answered
- d. Access to incentive information

Strategies to Increase Participation: Effective Communication, Provide Incentives and Convenience	Targeted barrier
Post events in well used community gathering places	A
Promote events through familiar channels (radios, community newspapers, notice boards, etc.)	A
Circulate event information through community leaders and organizations with similar goals	A
Provide door prizes or other incentives in partnership with local stores and suppliers	B
Explore opportunities to participate in popular local events that share similar goals and draw the intended audience	B,E
Spread out guided tours over a longer period as opposed to a one day event	C
Develop online presentations and videos and make them easy to find	C,D,E



Evaluation Metrics

- Participants survey results and verbal feedback
- Attendance
- Online viewing counts
- Participants' actions following the events

2) Desired Outcome: Completion of Home Energy Assessments

Targeted Stakeholders: Homeowners

Selected Action: Complete a home energy assessment

Barriers

- A. Not sure what a home energy assessment is
- B. Not aware of the benefits of an assessment
- C. Lack of interest
- D. Investment required for an energy assessment

Benefits

- a. Increased knowledge about energy performance of one's home
- b. Increased confidence in making energy retrofit decisions
- c. Increased awareness of potential improvement opportunities
- d. Access to potential incentives

Strategies to Encourage Home Energy Assessments: Effective Communication, Peer Influence, Provide Incentives and Convenience	Targeted barrier
Provide accurate and helpful information and contacts	A, B
Introduce energy assessment in community publications, RDN website and publications, and at appropriate public events	A, B
Engage other stakeholders to help spread the words	A,B
Provide rebates	C, D
Offer educational energy assessment walk-throughs to residents who are interested in hosting it for friends and families	A, B,C, D
Provide a short video on RDN website that explains the assessment process	A



Evaluation Metrics

- Number of inquiries local energy advisors receive
- Number of home energy assessment rebates issued
- Number of educational home energy walk-throughs hosted by residents

3) Desired Outcome: Construction of high-performance homes in the region.

Targeted Stakeholders: Builders and contractors

Selected Action: Construction of verified high performance homes

Barriers

- A. (Real or perceived) lack of demand from potential clients
- B. Lack of interest
- C. Additional investment required to verify high performance homes
- D. Shortage of skilled crew
- E. Lack of knowledge

Benefits

- a. Increased knowledge on energy efficiency to interested clients
- b. Better service to environmentally conscious clients
- c. Potentially increase the value of a property

Strategies to increase construction of high performance homes in the region: Build Commitment, Show leadership, Peer Influence, Effective Communication, Provide incentives.	Targeted barrier
Make sure builders are aware of the financial incentives their clients could be eligible for	A, C
Provide recognition opportunities such as being a host in our green building tour and showcasing outstanding projects on the RDN green building web pages and other relevant publications	B
Share knowledge with builders through attending builder-focused events such as builder’s trade shows and Canadian Home Builder Association’s events	B, E
Promote or provide education and capacity building opportunities in collaboration with organizations such as Built Green Canada, Cascadia Green Building Council and Canadian Passive House Institute	D,E



Evaluation Metrics

- Number of homes that receive Checklist incentives
- Number of homes that have been issued a Building Permit and obtained EnerGuide rating of 80 or higher or third-party certifications

4) Desired Outcome: Home energy use and features playing an increasing role in real estate transactions.

Targeted Stakeholders: Realtors

Selected Action: Provide learning opportunities on home energy use and the EnerGuide Rating System for realtors.

Barriers

- A. Lack of knowledge on energy features of a home
- B. Lack of interest
- C. Lack of information on potential savings and benefits

Benefits

- a. Demonstrate knowledge on energy efficiency to interested clients
- b. Better service to environmentally conscious clients
- c. Potentially increase the property value
- d. Discover additional selling points

Strategies to make realtors effective information sources on home energy use:	Targeted barrier
Show Leadership, Effective Communication and Convenience	
Provide learning opportunities about energy features of a home	A
Provide information on green building rating systems and standards that distinguish high performance homes in the market place	A
Provide local examples that showcase the benefits of an energy efficient home	A
Make the information easy to access on the counter and on the RDN website	C
Engage realtors through attending realtor-centered events such as the annual Vancouver Island Real Estate Board conference	B
Use of online tools and social media to inform realtors of relevant events and resources	C

Special Project 2014-2015:

The RDN, City of Nanaimo and the Vancouver Island Real Estate Board successfully secured \$50,000 from BC Hydro to implement a *Real Estate Energy Efficiency Program*. The Program will be carried out from April 2014 to October 2015 and primarily targets local realtors to become better sources of information on the energy features of a home, and to understand and explain the benefits of home energy assessments and the EnerGuide Rating system to potential buyers and sellers.

**Evaluation Metrics**

- Number of realtors that participate in the *Real Estate Energy Efficiency Program*
- Realtor survey results regarding realtors' knowledge level and practice of promoting energy efficiency

- 5) **Desired Outcome:** An increasing influence of home energy use as a factor in home purchases and price points, and an increasing use of home energy assessments to accompany real estate transactions.

Targeted Stakeholders: Realtors

Selected Action: Realtors explaining the benefits of home energy assessments to their clients.

Barriers

- A. Not sure what a home energy assessment is
- B. Lack of motivation
- C. Not aware of relevant resources
- D. Insufficient financial return on the effort
- E. Concern about devaluing older, inefficient homes

Benefits

- a. Increased knowledge on home energy performance to interested clients
- b. Ability to provide relevant resources to potential buyers
- c. Ability to assist sellers to review improvement options

Strategies to enable realtors to effectively explain the benefits of home energy assessments to their clients.	Targeted barrier
Show Leadership, Effective Communication, Provide Incentives and Convenience	
Provide learning opportunities on energy assessment process and its benefits	A,D,E
Disseminate information to realtors about the RDN Green Building Series	C
Collaborate with Vancouver Island Real Estate Board and City of Nanaimo to provide energy labeling on MLS as a service to potential buyers	B
Provide information on financial incentives their clients may be eligible for	D
Demonstrate the potential of older homes through simple improvement measures	E
Provide free energy assessment to the clients of realtors who either complete a home energy assessment or participate in energy efficiency training sessions	B



Evaluation Metrics

- Number of homes with EnerGuide rating on MLS
- Number of energy assessment incentives realtors distribute to their clients in the Real Estate Energy Efficiency Program

General Communication Strategies

In addition to the specific engagement efforts for 2014-2015 outlined above, the Energy and Sustainability Department will carry out ongoing communication strategies as identified below.

a) **Direct, two-way communication**

Direct communication is an effective form of communication especially when a complex topic related to green buildings is explored. Engagement between staff and residents over the counter, in face-to-face meetings, at outreach events, on the phone or over emails almost always yield satisfactory results when clarifications can be made immediately and ideas can be explored gradually. Trust is more likely to be built through direct contact and leads to exchange of information and experience that could be mutually beneficial. Direct communication is particularly valuable given the demographic of the region where many residents may not have easy access to computer and web resources or prefer 'old fashioned' direct conversations.

b) **Web presence and online tools**

Online tools can work together with direct communications. They are useful for sharing information, to broaden the reach of the program, and to provide residents who cannot participate in person with a way to access resources we offer. For example, the green building videos and recorded presentations produced in 2013 generated much online traffic and revealed the importance of these tools in providing access to information shared in person through Green Building Workshop series.

A variety of social media tools will be further explored in order to attract a younger, web savvy audience. These new technologies are more likely to attract program participants out of professional interests in green buildings rather than for personal home projects.

c) **Publications and information display**

Although much of the information is made available digitally, print materials are tangible, and easy-to-access products can display information at strategic locations to attract attention or to serve as reminders to the public. Publications such as the Green Building Guidebooks for Rainwater Harvesting and Residential Renewable Energy Systems are helpful resources for residents who are serious about implementing such projects and look for technical information or contacts. Other topics for the Guidebook Series such as natural building, grey water reuse, on-site wastewater management are being explored in response to residents' interest and service needs of various departments.

Newsletters and area updates can be used to provide brief summary of the program and highlight local examples. Community-based publications such as monthly magazines and local newspapers are an important source of information for local communities and could also be utilized for information and knowledge sharing.

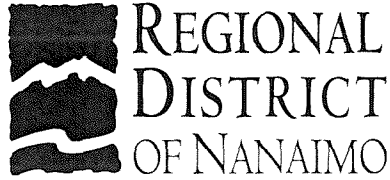
In the RDN facilities, where residents visit on a regular basis, organized and effective information display can be very helpful in raising awareness of RDN programs and services. Options to improve effectiveness of information display will be explored in collaboration with other departments.

d) Partnership with organizations and local businesses

Building partnership with organizations with similar goals and promoting events through compatible local businesses could create significant mutual benefits. The Green Building Program could increase its reach by tapping into existing professional and business networks and contribute unique content to relevant events. It is critical to build relationship over time and find opportunities early in the process for successful partnerships. Staff intends to identify promising organizations or events and initiate contacts each year as part of the Green Building Program planning.

e) Interdepartmental coordination

There are many opportunities for resident engagement throughout the organization. Referring residents to the right staff person or resource at the right time requires a broad understanding of the Green Building Program at the staff level. The Energy and Sustainability Department will provide ongoing support and periodic check-ins with front counter staff to enhance interdepartmental coordination in order to effectively engage the right audience and monitor feedback.



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MEMORANDUM

TO: Chris Midgley
Manager, Energy and Sustainability

DATE: May 28, 2014

FROM: Ting Pan
Sustainability Coordinator

FILE: 6430-05-GBS

SUBJECT: 2014 Green Building Series

PURPOSE

To provide the Sustainability Select Committee with a preliminary program for the 2014 Green Building Series.

BACKGROUND

The Regional District of Nanaimo (RDN) has hosted annual Green Building Series events as part of the green building outreach program since 2010. Several strategies were incorporated into this year’s program to increase participation based on the lessons learned for previous events, and feedback from past attendees as well as the Sustainability Select Committee, including:

- Increasing the proportion of interactive learning opportunities and using a variety of formats, such as open houses, site visits, online videos, film screening and panel discussions.
- Scheduling open houses over several weekends instead of concentrating them on a single day.
- Partnering with compatible organizations to leverage resource and expertise and to maximize exposure.
- Creating narrated presentations and videos accessible on the RDN website.

Below is a preliminary program of the 2014 Series. It is provided now to ensure that the RDN Board is aware of this year’s activities well in advance. (The next scheduled Sustainability Select committee meeting will take place on or about the time the Series gets underway). More activities may be added later, and program information will be available in the *Fall Active Living Guide* and on the RDN’s *Get Involved* website.

Date	Time	Activity
Sun. Sept 14	2 pm - 4 pm	Sustainable Future Mini Film Festival, Discussion and Demo Site Tour in partnership with community groups GabEnergy and Gabriola Commons
Sat. Sept 20	10 am – 1 pm	Open Houses in Bowser – Jamieson House and Thompson Clarke House
Sat. Sept 27	10 am – 1 pm	Open House in Yellowpoint – Bramble Cottage
Sat. Sept 27	1 pm – 4 pm	Open House in Errington – Residential Solar Power System
Sat. Oct 4	10 am – 1 pm	Open House in Nanoose – Residential Wind and Solar Systems
Sat. Oct 18	9:30 am - noon	Climate Science Symposium in partnership with VIU and City of Nanaimo
Sept to Oct	n/a	Narrated presentations and videos on rainwater harvesting, renewable energy systems, net metering and Passive House to be released.

ALTERNATIVES

This report is provided for information purposes only.

FINANCIAL IMPLICATIONS

The RDN Green Building Series receives up to \$20,000 from Community Works Fund through annual budget approval process. The Series addresses the capacity building criterion for the use of Community Works Funds by increasing knowledge and awareness of staff and local community residents to build and renovate homes that result in more efficient homes that use less water and energy, and reduce greenhouse gas emissions.

STRATEGIC PLAN IMPLICATIONS

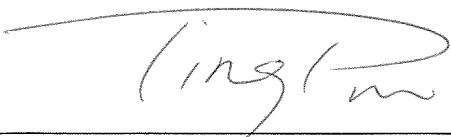
The annual Green Building Series is an important component of the Green Building Outreach Program, providing learning and exchange opportunities directly to residents. It has highlighted local expertise in green building practices, and inspired many residents to build exemplary projects that add to the inventory of green buildings in our region.

SUMMARY/CONCLUSIONS

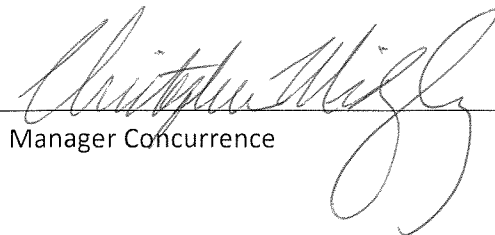
A preliminary program for the 2014 Green Building Series has been developed. The events are scheduled to run between September 14 and October 18, 2014, including a wide range of activities focusing on renewable energy production, water conservation, and green building design and construction. This information is provided to the Committee now so that Committee members and the RDN Board are aware of this year's Green Building activities well in advance of the events taking place.

RECOMMENDATION

This report is provided for information purposes.



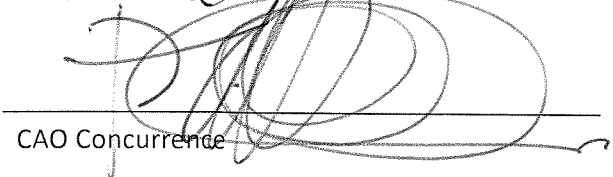
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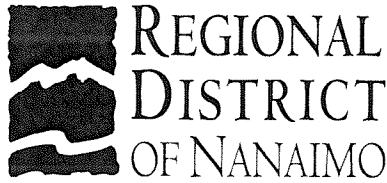
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		DATE: May 28, 2014

MEMORANDUM

TO: Chris Midgley
Manager, Energy and Sustainability

FROM: Ting Pan
Sustainability Coordinator

SUBJECT: Update on Overcoming Barriers to Green Buildings

FILE: 6430-05-OBGB

PURPOSE

To provide the Sustainability Select Committee with an update on progress to overcome barriers to green buildings in the Regional District of Nanaimo (RDN).

BACKGROUND

In March 2010, the RDN completed a study titled 'Overcoming Barriers to Green Buildings'. The study identifies nine recommendations for the RDN to consider in order to reduce barriers to (near) net-zero buildings, listed in Table 1 and summarized below. The study's Section 7: Recommendations, is provided as Appendix 1.

Summary and Status of Recommendations

	Recommendation	Status
1)	Capacity Development Program	Established
2)	Outreach Program	Established
3)	Remove Zoning Bylaw Barriers	Ongoing
4)	Appropriate, Compact Growth	Ongoing
5)	Subdivision regulations	Ongoing
6)	Expand Building Inspection	Established
7)	Incentive & Recognition Program	Established
8)	Revise Checklist	Established
9)	Development Permit Areas	Established and ongoing

Net-Zero Performance Standard

The net-zero performance standard applies to buildings that require no net-input from external utilities for any given resource, such as energy or water, on an annual basis. For example, a home that generates as much electricity in a year as its inhabitants use in a year is considered net-zero for electricity. This can also be achieved for water through rainwater harvesting. Net-zero is an exceptionally high performance standard, and one that must be verified each year. A home that achieves net-zero one year but not the next can be considered (near) net-zero, as can a home that is designed to be extremely water and energy efficient, but not to rely on rainwater for 100% of household needs.

The (near) net-zero performance standard was selected for this study over more common green building rating systems because a clearly defined performance standard does not change over time while rating systems tend to evolve over time. Relying on a particular rating system could therefore render the content of the study obsolete over time.

More importantly, as such a high performance standard, (near) net-zero provides an idealized model that will identify the fullest range of potential regulatory and market barriers. The study identified 14 barriers to near net-zero buildings that relate to RDN regulations and procedures among 24 barriers in total, and nine recommendations to overcome those barriers. The following summary provides an update on RDN activities for each of the recommendation:

Progress on Recommendations

Upon completion of the study, staff revised and updated the RDN Green Building Action Plan in order to make progress on implementing the study's recommendations as per the following Board motion dated June 22, 2010, based on the recommendation of the Sustainability Select Committee:

That the Board direct staff to update the Green Building Action Plan to incorporate suggested actions contained in the final report: Overcoming Barriers to Green Building in the RDN.

This section lists the nine recommendations and outlines actions taken by the RDN to implement those recommendations.

1. Capacity Development Program

1) LEED AP Credential for Planning Approvals Staff

Currently two RDN staff members hold the LEED accredited professional designation.

2) Organize Energy Performance Standard Training for Building Inspection Services Staff

Building Inspection Services Staff have taken training related to energy performance requirements in the BC Building Code, such as the New Energy Provisions in the BC Building Code organized by the Homeowner Protection Office Branch of BC Housing. A guided tour of a net-zero home built in Yellowpoint was also organized for building inspectors in 2012.

3) Industry Outreach

RDN staff has developed an inventory of local builders, trades and design professionals who have green building expertise and experience, and worked with them to showcase projects to their peers and the general public through annual Green Building Series and Parade of Homes organized by Canadian Home Builders Association.

An initiative to improve realtors' understanding of home energy performance and the EnerGuide Rating system was developed in partnership with the City of Nanaimo, the Vancouver Island Real Estate Board and BC Hydro and will be carried out in 2014 and 2015.

4) Facilitate Additional Green Building Capacity Development

- The 2010 RDN Green Building Action Plan provides a list of implementation items to support the development of green buildings in the region.
- A Rainwater Harvesting Guidebook was developed in 2012. A workshop was held for staff in planning, water services and building inspection services.
- A Residential Renewable Energy Guidebook was developed in 2013.

- Green building resources and incentive program information are shared online and with staff, local builders and professionals on a regular basis.

2. Outreach Program

- A Green Building Series featuring presentations, workshops and open houses has been organized each year since 2010. The Series has reached residents, students, builders, planners, design professionals and realtors with topics such as passive design, rainwater harvesting, renewable energy systems, greywater reuse and stormwater management strategies.
- A Green Building Outreach Strategy and Plan is being developed in 2014.
- The LiveSmart BC program was actively promoted throughout the region in collaboration with the Certified Energy Advisors that provide services in this area.
 - A Home Energy Assessment Rebate was created for the residents in Electoral Areas and Lantzville as an additional incentive and an introduction to the Provincial LiveSmart BC incentive program.
- The RDN green building program has been promoted through WaterSmart program, on the RDN website and at relevant events such as Canadian Home Builders Association - Central Vancouver Island's Parade of Homes and Green Solutions Trade Show.

3. Remove Zoning Bylaw Barriers

- 1) *Identify all sections of Land Use and Subdivision Bylaw No 500, 1987 and Zoning and Subdivision Bylaw No. 1285, 2002 requiring amendments.*

The full review of zoning-related bylaws is in the 2014 work plan for Strategic and Community Development, and will be coordinated between Current Planning, Energy and Sustainability and Long Range Planning.

A useful precursor to that review is the work undertaken to develop comprehensive development zoning regulations and subdivision servicing standards for the Fairwinds Development in Electoral Area E (The Lakes District and Schooner Cover). The proposed zoning amendments include flexibility to accommodate green building systems and the standards reflect current best practices for infrastructure design and efficiencies. The zoning, for example, includes exemptions from setback requirements for rainwater harvesting structures, where a building permit is not required for such structures, and exemptions from structure height calculations for sustainable building technologies such as wind turbines, solar panels, rain barrels, and cisterns.

- 2) *Amend all appropriate sections of bylaws.*
Zoning Bylaw amendments will be recommended after the above-noted review.

4. Appropriate, Compact Growth

- 1) *Continue to implement land use planning, wastewater management policies and initiatives that encourage compact, complete development.*

Since the release of this study in March 2010, the Regional District of Nanaimo completed and adopted an update of the Regional Growth Strategy ("*Regional District of Nanaimo Regional Growth Strategy Bylaw No. 1615, 2011*"), and Official Community Plans for Electoral Areas G and A. Each has incorporated language to encourage higher density, smaller lot sizes within a Growth Containment Boundary.

Currently the two most viable village centres identified in the Rural Village Centre Study - Bowser and Cedar Village Centres- will be evaluated for sewer service. If sewer service is proven feasible, these village centres could accommodate smaller lot sizes in the future when the sewer service becomes available.

The *Alternative Forms of Rural Development* study completed in 2012 by the Long Range Planning group, provided options to consider in future Official Community Plan reviews to support a sensitive and sustainable approach to more compact development in rural areas.

5. Expand Building Inspection

At the Regular Board Meeting held June 22, 2010 the RDN Building Inspection service area was expanded to encompass the entire region.

6. Subdivision Standards Bylaw

1) *Review green subdivision standard opportunities*

Potential barriers relating to subdivision noted in the study reference impediments to solar orientation, notably that current subdivision standards do not prioritize solar orientation for streets. This remains unchanged for a number of reasons. In most cases minimum lot sizes in rural areas are large enough that street orientation does not dictate house orientation. Factors other than street orientation, including shading from trees, orienting homes for views, local topography, etc. have an equal, if not greater impact on solar access and passive solar orientation in RDN rural areas.

Secondly, while a lack of solar orientation could hinder the realization of a net-zero building, it is unlikely to have an impact on the potential to build a home to EnerGuide 80-85, which is generally considered to be highly efficient for a new home constructed under the current BC Building Code. In addition, the BC Ministry of Transportation and Infrastructure is the approving authority for subdivision, and road dedications associated with subdivision remain under that Ministry's authority.

As for other elements such as district energy, on-site renewable energy generation, wastewater management, transportation infrastructure and mixed use communities, a better approach is to include supportive policies in Official Community Plans, Development Permit Areas or elsewhere that the RDN has clear authority.

Returning to the Fairwinds Development, the project is an excellent example of how to approach a major development with site specific zoning, subdivision servicing standards, Development Permit Areas, and a Phased Development Agreement (DPA). This approach will facilitate high-performance, environmentally-responsible development in Electoral Area E, and has provided a valuable experience for staff in managing major developments in the region.

At present, assuming subdivision authority is not currently encouraged by the Province. Doing so would also place a considerable burden on RDN resources and staff time.

2) *Draft Subdivision Standards Bylaw*

Drafting a Subdivision Servicing Bylaw is in the 2014 work plan as a collaborative project between Currently Planning and Regional and Community Utilities.

7. Incentive & Recognition Program

1) *Develop Green Building Incentive Program Criteria*

The RDN Green Building Incentive Program was established in 2011. Incentives are reviewed and adjusted annually in response to popularity, feedback, available resources and other factors.

2) *Implement Green Building Incentive Program Building Permit Fee Rebates and/or Other Incentives*

The Green Building Incentive Program was officially launched in May 2011, including rebates for woodstove exchanges, site-cut timber, home energy assessments, renewable energy systems, residential electric vehicle charging stations, and high-performance new construction and major renovation projects.

3) *Consider a contingency or cap [for funding Green Building Incentives]*

The budget for the Incentive Program comes from a variety of internal and external sources, approved or pursued on an annual basis. In the past, as funds were depleted, the RDN Board approved recommendations to provide additional funding from appropriate reserve funds.

4) *Design and Implementation Public Recognition Framework*

A public recognition program was established for commercial projects in 2011. However, there has been no uptake so far. This is primarily due to the lack of eligible commercial development in the region for the past several years.

5) *Encourage (Near) Net-Zero Building at Redesignation and Subdivision*

Official Community Plans, Neighbourhood Plans and Development Permit Areas that were developed since 2010 for Electoral Area A, G and E established guidelines for green building design and construction. These plans form the basis for encouraging rezoning and subdivision applicants to adopt green building practices. It is anticipated that similar guidelines will be established for other areas when OCP reviews are initiated.

8. Revise Checklist

1) *Revise the Review Form and Checklist*

The Sustainable Community Builder Checklist was revised and evolved into the Sustainable Development Checklist in 2011. The new Checklist has specific performance criteria and is tied to a Checklist Incentive ranging from \$500 to \$1,000.

9. Development Permit Areas

1) *Initiate a study of Energy and Water Conservation DPA Guidelines*

In 2008, the Provincial government granted Local Governments new powers with regard to DPA Guidelines to establish objectives to promote energy and water conservation and the reduction of greenhouse gas emissions. The RDN has exercised this new power with the adoption of the Yellow Point Aquifer Protection DPA, South Wellington Industrial Commercial DPA in 2011, and the Cedar Main Street DPA in 2013. The Yellow Point DPA specifies a rain water harvesting system requirement for applicable residential construction projects.

In addition, the Fairwinds development will also be guided by the proposed Schooner Cove and The Lakes District Energy Water Conservation and the Reduction of Greenhouse Gases

DPA. In these DPAs, the use of resource efficient building materials, techniques, and practices, passive solar design, renewable energy use alternatives and third party certification are strongly encouraged.

As the adoption of new DPA guidelines generally coincides with Official Community Plan reviews, staff will continue to incorporate Energy and Water Conservation DPA Guidelines as opportunities arise and as community desire dictates.

2) *Liaise with stakeholders regarding DPA Guideline Development*

Extensive public consultation process where residents, professionals and community groups were invited to provide input to the proposed DPA guidelines was carried out as part of the OCP review and Neighborhood Plan development.

ALTERNATIVES

There are no alternatives. This report is provided for information purposes only.

FINANCIAL IMPLICATIONS

Recommendations from the study led to the development of RDN Green Building Series and Incentive Programs, which receive funds from Community Works Fund and Building Inspection Services respectively through annual budget approval process.

Other recommendations have informed the daily work of current and long range planning, resulting in significant progress or successful implementation across all the recommendations in the *Overcoming Barriers* study.

STRATEGIC PLAN IMPLICATIONS

The purpose of the '*Overcoming Barriers to Green Buildings*' study is to identify potential barriers to (near) net-zero buildings so that the RDN can be in a better position to support the development of green buildings in the region. Since the completion of the study, the implemented recommendations directly supported the Board's strategic priorities such as increasing efficiency in resource use, encouraging self-sufficiency and building a resilient regional economy.

DEVELOPMENT IMPLICATIONS

The implementation of green building outreach and incentive programs has facilitated many single family home development and redevelopment projects that demonstrate building best practices. The region-wide expansion of the building inspection service has ensures that construction in the region achieves the minimum standard for safety, and has enabled the creation of a regional green building incentive program.

The ongoing work related to land use regulations and policies is expected to further favorable conditions for sustainable building technologies and practices in the region. This is particularly evident in the new Fairwinds development application where innovative approaches to site specific zoning regulations and policies will guide future development toward more efficient, higher-performance construction standards.


SUMMARY/CONCLUSIONS

This report provides an update on progress made implementing recommendations in the study 'Overcoming Barriers to Green Buildings' completed in March 2010. All nine recommendations from the study are established or being implemented. Since then, the RDN has developed a substantial portfolio, including outreach, capacity building, incentives and policy tools, to encourage green building practices.

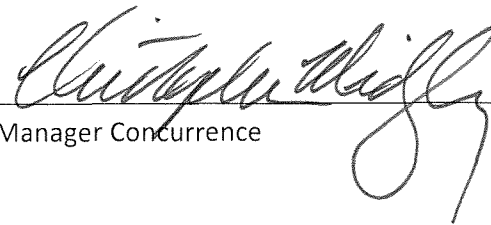
The RDN has also been taking steps to address potential regulatory barriers to green buildings through the establishment of water and energy conservation guidelines in Development Permit Areas, as well as by developing site specific zoning regulations and standards in significant development applications such as the new Fairwinds development. Included in the 2014 work plan are the review of zoning-related bylaws and the development of subdivision servicing standards.

RECOMMENDATION

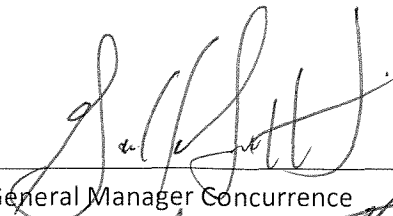
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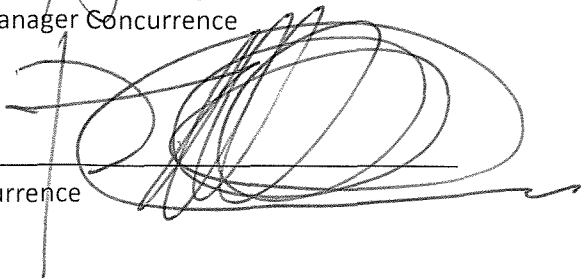
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Manager Concurrence



General Manager Concurrence



CAO Concurrence

7. Recommendations

This section outlines recommendations for the RDN to reduce barriers to [Near] Net Zero buildings and implement market transformation strategies to encourage [Near] Net Zero buildings' uptake. The RDN does not possess limitless resources, and cannot immediately undertake every potential solution to barriers identified in Section 5. Therefore, the RDN must prioritize barriers, practically achievable strategies to encourage the development of Net Zero buildings. The following recommendations address a variety of barriers, using tools that RDN staff, stakeholders, and the consulting team identified as most appropriate to the RDN's context. Further detail on these recommendations is located in the subsections on the following pages. It is recommended that the RDN:

capacity building and public outreach programs

7.1 Capacity Development Program

Implement a Staff Green Building Capacity Development Program. Combine with opportunities for Industry Capacity Development whenever possible.

7.2 Outreach Program

Implement an Outreach Program, targeting participation in the LiveSmart home retrofit incentive program for existing buildings.

reduce RDN regulatory barriers

7.3 Remove Zoning Bylaw Barriers

Amend zoning and building related bylaws to remove barriers to green building. Bylaws should:

- Calculate floor area by measuring from the inner wall, not outer wall, to reduce barriers to greater insulation levels
- Calculate build-to-lines from the outer wall, not building projections, to facilitate passive shading
- Explicitly exempt rooftop renewable energy generation equipment from any height restrictions, to facilitate alternate energy sources (Tier 3' strategies). Additionally, allow a portion of roof space to exceed current building height limits, allowing for 5/12 to 9/12 roof pitches - appropriate pitches for rooftop solar

7.4 Appropriate, Compact Growth

Implement Electoral Areas OCPs and zoning-related bylaws to allow for smaller lot sizes in appropriate zones within the Growth Concentration Boundary, to encourage more compact development, thereby reducing buildings' energy and water use.

enforce the BC building code

7.5 Expand Building Inspection

Expand building inspection areas to cover all Electoral Areas, thereby allowing the RDN to ensure that building performance standards are met, and more easily administer any incentives (see recommendation 7.7).

reduce senior government regulatory barriers

7.6 Subdivision Standards Bylaw

Modify existing subdivision regulations, or develop a new Subdivision Standards Bylaw(s), to encourage better solar orientation, facilitate green water management technologies, and specify other green building, infrastructure, transportation, and land use strategies. Coordinate with the MOTI to ensure standards are enforced; alternately, the RDN may consider assuming subdivision responsibilities.

green building incentives and revised building checklist

7.7 Incentive & Recognition Program

Initiate a Green Building Incentive Program. Incent [Near] Net Zero construction by providing building permit fee rebates for green building performance, and/or providing another pool of incentive funds thereby covering buildings outside of building inspections areas. Provide incentives for:

- Part 9 Construction – An EnerGuide rating (or equivalent energy performance) and proof of water efficiency performance, both in excess of BC Building Code requirements
- Part 3 Construction – Third party verification that the development has implemented a “Green Strategy” outlining green building strategies that go beyond the BC Building Code

As part of this initiative, issue a Board directive 'strongly encouraging' rezoning candidates to commit to meet or exceed the Green Building Incentive Program standards through a Section 219 Land Title Act covenant, or another suitable means of commitment. Coordinate with the MOTI to encourage similar commitments during subdivision.

7.8 Revise Checklist

Revise the Sustainable Community Builder Checklist currently applied during rezoning and development permitting applications, to reference performance based green building strategies and the Green Building Incentive Program.

development guidelines

7.9 Development Permit Areas

Develop Energy and Water Conservation Development Permit Areas (DPA) Guidelines, to encourage passive design and other green building strategies.

The table to the right estimates the cost and time to implement each recommendation, and their potential impact in forwarding [Near] Net Zero construction. These estimates are based from the Project Team's literature review; consultation with industry and other local governments; and professional expertise - they serve as rough guidance only. Costs and effectiveness will ultimately be dictated by the efficiency of implementation and future market conditions in the RDN.

The Gantt chart on the next page illustrates major implementation steps and timelines.

The following subsections list for each recommendation:

- The barriers addressed
- Discussion concerning the rationale for these recommendations
- Key implementation tasks
- Responsible departments

Cost & Impact Implications of the Recommendations			
Recommendation	Cost/Time	Potential Impact	Priority
7.1 Capacity Development Program	\$	Medium-High	Immediate
7.2 Outreach Program	\$	Medium-High	Immediate
7.3 Remove Zoning Bylaw Barriers	\$	Low-Medium	Immediate
7.5 Expand Building Inspection	\$	Medium-High	Immediate
7.8 Revise Checklist	\$	Low-Medium	Initiate Soon
7.4 Appropriate, Compact Growth	\$\$	Medium-High	Initiate Soon
7.7 Incentive & Recognition Program	\$\$	Medium-High	Initiate Soon
7.6 Subdivision Standards Bylaw	\$\$\$	High	Initiate Soon
7.9 Development Permit Areas	\$\$\$	High	Initiate Soon

	2010	2011	2012	2013
Capacity Building and Public Outreach Programs	<p>7.1 Capacity Development Program</p> <p>7.2 Outreach Program</p>	<ul style="list-style-type: none"> • LEED AP accreditation for key staff. • Industry Liason • Energy standard training and other training opportunities • Coordinate with LiveSmart B.C. • Training and workshops for staff, WaterSmart personnel, retail partners etc.. • Review additional outreach opportunities 		
Reduce PDN Regulatory Barriers	<p>7.3 Remove Zoning Bylaws Barriers</p> <p>7.4 Appropriate, Compact Growth</p>	<ul style="list-style-type: none"> • Identify pertinent sections • Draft and pass amendments • Review appropriate locations to reduce lot sizes • Amend OCP and Zoning Bylaws as opportunities arise 		
Enforce the B.C. Building Code	<p>7.5 Expand Building Inspection</p>	<ul style="list-style-type: none"> • Expand geographical coverage of building inspection 		
Reduce Senior Government Regulatory Barriers	<p>7.6 Subdivision Standards Bylaw</p>	<ul style="list-style-type: none"> • Review subdivision standards • Address solar orientation, water management and green community infrastructure • Coordinate with the Ministry of Transportation on enforcement. 		
Green Building Incentives and Revised Building Checklist	<p>7.7 Incentive & Recognition Program</p> <p>7.8 Revise Checklist</p>	<ul style="list-style-type: none"> • Develop Green Building Incentive Program Criteria • Implement Incentive Structure • Design and implement recognition and outreach programs • Revise checklist 		
Development Guidelines	<p>7.9 Development Permit Areas</p>	<ul style="list-style-type: none"> • Development Permit Area green building and passive design study • Architectural testing • Liaise with stakeholders • Adopt DPA Guidelines 		

7.1 capacity development program

It is recommended that the RDN initiate a Staff Green Building Capacity Development Program. Staff capacity development opportunities should be integrated with building industry capacity development and outreach whenever possible.

barriers addressed

- RDN 10 - BCBC prescriptive; equivalencies difficult to obtain (pg. 39)
- Senior Government Barriers 3,5 – BCBC prescriptive; equivalencies difficult to obtain (pg. 45)
- RDN 12 – Lack of Staff Capacity to Speed Net Zero applications (pg. 40)
- Market Barrier 4 – Lack of Industry Capacity (pg. 29)

discussion

During workshops, staff and stakeholders both emphasized the importance of developing staff capacity. Also, stakeholders emphasized the need for industry capacity development. Developing capacity in green building is especially important for the following reasons:

Enforcing Energy Performance Requirements

In Building Inspection Areas, the RDN is obligated to enforce minimum BC Building Code energy performance requirements. Familiarity with energy performance standards referenced in the BC Building Code can help Building Services staff ensure compliance (the EnerGuide home energy rating system is referenced for Part 9; the ASHRAE 90.1 standard for Part 3). Evidence from many BC Local Governments indicate that a substantial proportion of new construction does not meet minimum energy performance standards. As the BC Building Code's energy requirements become more stringent, more rigorous enforcement will become increasingly critical.

Even training in green building techniques not directly tied to codes (such as the R2000 energy efficiency standard for low-rise residential construction) can also aid staff in code enforcement, by increasing their knowledge of energy efficient building techniques. Furthermore, such training has proven to aid staff in suggesting alternate strategies to designers and builders, and aid in approving appropriate Code equivalencies.

Streamlining Approvals of Green Building Technology

Increased approvals timelines, and the uncertainty associated with using innovative technologies, is one of the greatest barriers to green building. Providing staff training in innovative green building technologies increases familiarity with such systems, and can thereby decrease approvals timelines. Joint capacity development can put staff and industry on the same page regarding appropriate building systems and installation techniques, further facilitating implementation and an expedient approvals process.

Developing Local Building Industry Capacity

Industry capacity development is critical to green building design and (especially) construction. Many builders and trades-people do not possess sufficient experience with green building construction technologies and techniques (for example, proper air sealing, advanced insulation installation, etc). This leads to more expensive and lower quality construction. Indeed, as many Canadian jurisdictions are discovering, not only do some builders not have the skills to implement advanced green building techniques, but many new buildings fail to meet minimum energy performance requirements.

Local building professionals can benefit from many of the same programs recommended for Building Services staff.

implementation tasks

1. LEED AP Credential for Planning Approvals Staff

Ensure at least one Current Planning staff member holds LEED Accredited Professional status. Hire LEED accredited staff, or support existing staff in pursuing accreditation.

2. Organize Energy Performance Standard Training for Buildings Inspections Services Staff

All Building Inspections Services staff should undertake training related to enforcing energy performance requirements in the BC Building Code. Recommended training programs are listed in the following table.

Building Type	Course	Web Address
Part 3	ASHRAE 90.1 Standard Professional Development	http://www.ashrae.org/education/page/1834
Part 9	EnerGuide Builder Training	http://oee.nrcan.gc.ca/residential/business/builders-renovators-trades/building/evaluation.cfm?attr=12
Part 9	R-2000 Training -Builder Workshop (minimum – other training options exist)	http://oee.nrcan.gc.ca/residential/business/builders-renovators-trades/r-2000/training.cfm?attr=12#builder-w

3. Industry Outreach

Include building industry members in training opportunities whenever appropriate and Invite local building professionals to staff training events. Target:

- Builders
- Trades people
- Architects and other design professionals

Liaise with local industry organizations, representing building professionals active in RDN to recruit participants, including:

- Canadian Home Builders Association – Central Vancouver Island
- Local Trade Unions

Maximizing participation of all involved by:

- Poll local building professionals on green building programs they wish to participate in. Include a form, where builders will provide a written commitment to participate in future training. Once training is organized, remind builders of their commitment
- Provide participant recognition on RDN website page, 'RDN Green Builder' certificates, and other forms of recognition

- Consider a discounted fee for industry participants, subsidized by the RDN

4. Facilitate Additional Green Building Capacity Development

Provide training for staff and potentially industry in green building strategies in excess of minimum code requirements (e.g., geo-exchange heating and cooling; solar hot water systems). Such capacity development would ideally focus on:

- Best practices in design
- Best practices in construction
- Expedient approvals

A variety of green building training opportunities exist across Canada, organized by various institutions. New programs are frequently coming online. The table below lists some current opportunities. RDN Staff should monitor future opportunities.

Courses	Organization	Web Address
Inspector Training; Installer, Designer Training	Canadian GeoExchange Coalition	http://www.geoexchange.ca/en/cgc_geoexchange_training_program_geothermal_trc42.php
Solar Hot Water Inspector Training (Saanich May 28th; or the RDN may host)	Solar BC	http://www.solarbc.ca/learn/training-opportunities
Various Training Programs; updated links to other training opportunities	Natural Resources Canada – Office of Energy Efficiency	http://oee.nrcan.gc.ca/commercial/newbuildings/training-workshops.cfm

Implementation Roles and Responsibilities	
Responsible Departments	Role
Energy and Sustainability and/or Building Services	Program and development coordination

7.2 outreach program

It is recommended that the RDN undertake an outreach program, targeting homeowner participation in the LiveSmart Home Energy Retrofit Program for existing housing. Tie outreach to current RDN Team Water Smart education and outreach initiatives. Once the outreach program is established, promote other Federal, Provincial and utility green building programs, as well as RDN incentives.

barriers addressed

- Market Barrier 2 - Costs; Split Incentives (pg. 26)
- Market Barrier 5 - Buyers Sensitive to First Costs (pg. 30)

discussion

Programs such as the Province's renewed LiveSmart Retrofit Program are being offered to incent energy efficiency and facilitate quality construction; the RDN's role will be to increase participation. Ideally, outreach will also emphasize the 'prestige' qualities and environmental benefits of green building. Many municipal green building outreach programs provide information that is too general. Effective social marketing programs clearly identify target audiences, behavior objectives, and communications strategies to encourage these behaviours. As the RDN develops its outreach program, it is important to:

- Identify strategic target audiences to participate in programs
- Use effective communications and marketing strategies to reach and influence decision makers in these sectors

The RDN already administers the Team WaterSmart Public Education and Outreach Program, as well as a Toilet Replacement Rebate Program. The RDN can build from these existing initiatives and internal expertise, to more readily promote the LiveSmart program, and provide residents with consolidated sources of information.

The LiveSmart Home Energy Retrofit Program has recently been renewed by the Ministry of Energy, Mines and Petroleum resources. In brief, engagement with the LiveSmart program works as follows:

1. Homeowners arrange a pre-retrofit assessment from a licensed service organization
2. The service organization provides the homeowner with a report of recommended retrofits
3. The homeowner organizes retrofits
4. After a second performance assessment, the homeowner is eligible for rebates on implemented energy efficiency building features

While results vary building to building, retrofits in BC lower energy consumption 34% on average. Program uptake rates vary substantially community to community - Local Governments that actively promote LiveSmart/EcoENERGY (including the Cities of Terrace, Medicine Hat, North Vancouver and Vancouver) typically experience 2-3 times Provincial rates of program uptake.

implementation tasks

Coordinate with LiveSmart BC. Request outreach materials.

Use current WaterSmart personnel to conduct LiveSmart outreach. If WaterSmart funding cannot be used on home energy efficiency outreach, consider other funding sources, while still using WaterSmart personnel, events, and outreach channels to promote LiveSmart. Outreach strategies include:

- A page on the RDN website, with information and links to LiveSmart BC
- Prepare line staff to deliver information on the LiveSmart program to renovators inquiring about building permits
- Familiarize Team WaterSmart personnel with the LiveSmart program and promote during regular outreach activities
- Hold regular workshops (perhaps once every two months) conducted by a Certified Energy Advisors and/or staff, to explain the program. Ensure that events are well advertised. Consider workshops in a variety of locations throughout the RDN
- Coordinate with local hardware retailers. Hold workshops with sales staff, requesting that they refer clients to LiveSmart
- Coordinate with local realtors. Request they refer buyers of existing homes to LiveSmart

Additional utility, Provincial and Federal building efficiency incentive and financing programs are available, and more may come online in the future. The RDN should monitor such programs, and expand the scope of outreach as appropriate.

Information on incentive and financing programs are located at City Green's Affordable Warmth program website:
<http://www.affordablewarmth.ca>.

Implementation Roles and Responsibilities	
Responsible Departments	Role
Water and Wastewater Services and/or Energy and Sustainability	Program Development and Implementation

7.3 remove zoning bylaw barriers

Amend Land Use and Subdivision Bylaw No. 500, 1987 and Zoning and Subdivision Bylaw No. 1285, 2002 to remove barriers to green building. The bylaws should be amended to:

- Calculate floor area by measuring from the inner wall, not outer wall, to reduce barriers to greater insulation levels
- Calculate build-to lines from the outer wall, not building projections (troughs, eaves, etc), to facilitate passive shading
- Explicitly exempt rooftop renewable energy generation equipment from any height restrictions, to facilitate alternate energy sources ('Tier 3' strategies). Additionally, allow a portion of roof space to exceed current building height limits, allowing for 5/12 to 9/12 roof pitches - appropriate pitches for rooftop solar

barriers addressed

- RDN 5 - Bylaws Impede Net Zero (pg. 35)

discussion

The recommended amendments will reduce regulatory barriers to common [Near] Net Zero energy building strategies.

In the case of facilitating rooftop renewable energy, this may be necessary to ensure buildings can meet new requirements in the revised BC Building Code - it is expected that the 2010 Code will require 'Solar Readiness'. One of the conditions of solar readiness is appropriate roof pitches. Some RDN zones feature low building height limits, which effectively restrict building roof pitches to 4/12 or shallower. The optimal pitch for rooftop solar at in the RDN is 9/12, though 5/12 to 12/12 are viable pitches.

implementation tasks

1. Identify all sections of Land Use and Subdivision Bylaw No. 500, 1987 and Zoning and Subdivision Bylaw No. 1285, 2002 requiring amendments.
2. Amend all appropriate sections of bylaws.

Implementation Roles and Responsibilities	
Responsible Departments	Role
Current Planning, Long Range Planning and/or Energy and Sustainability	Documents Review, analysis, drafting amendments

7.4

appropriate, compact growth

It is recommended that the RDN implement policies in its Electoral Area OCPs and Zoning related bylaws that encourage smaller lot sizes in detached housing developments and multi-family developments in appropriate locations such as Village Centres.

barriers addressed

- RDN 2 - Official Community Plan and Zoning Bylaws are not effective at concentrating development in village centres (pg. 32)

discussion

Larger single detached homes engender greater total energy use than smaller homes or multifamily developments. Moreover, sprawling development requires greater landscape irrigation requirements per capita and engenders other negative environmental impact due to reliance on automobile transport and the loss of agriculture and wild lands.

The RDN's Regional Growth Strategy and Electoral Areas OCPs generally specify 'smart growth' principals, concentrating growth within Village Centres while minimizing development outside of the RDN's Growth Concentration Boundary (GCB). However, development has continued outside the GCB, and inappropriately large lot developments have occurred within designated Village Centres. This trend is due to a lack of implementation of OCP policies, as well as a lack of infrastructure servicing within Village Centres, necessitating large lots for septic system based wastewater management.

implementation tasks

1. Continue to implement land use planning wastewater management policies and initiatives that encourage compact, complete development.

Implementation Roles and Responsibilities	
Responsible Departments	Role
Current Planning, Long Range Planning, Water & Wastewater Services	Implementation

7.5

expand building inspection

It is recommended that the RDN expand building inspection areas, to facilitate BC Building Code enforcement and other regulations, and to administer any building permit rebate incentives.

barriers addressed

- RDN 13 - Building Inspection Areas do not cover all of the RDN (pg. 40)

discussion

Parts or all of Electoral Areas A, C, F, and H are not subject to building inspection and permitting. Building inspection and permitting are the RDN's primary tools to enforce the BC Building Code, including minimum energy and water efficiency requirements. Moreover, building permit fees may be rescheduled to provide incentives for [Near] Net Zero buildings (see Recommendation 7). Non-universal building inspection and permitting will reduce the impact of a building permit fee rebate system (however, other means of supplying rebates are available).

implementation tasks

1. Amend Building Regulation and Fees Bylaw No. 1250, 2001 to extend building inspection areas.

Implementation Roles and Responsibilities	
Responsible Departments	Role
Current Planning, Long Range Planning, Building and Bylaw Services, Water & Wastewater Services	Documents Review, analysis, drafting amendments

7.6 subdivision standards bylaw

It is recommended that the RDN modify existing subdivision regulations, or develop a new Subdivision Standards Bylaw(s), to encourage better solar orientation and encourage other green building, infrastructure, transportation and land use planning strategies. Coordinate with the Ministry of Transportation and Infrastructure (MOTI), Ministry of the Environment (MOE), and Vancouver Island Health Authority (VIHA) to ensure standards are enforced; alternately, the RDN may consider assuming subdivision responsibilities.

barriers addressed

- RDN 1 - Solar access not prioritized during subdivision and community planning (pg. 31)
- Senior Government Barrier 1 - Street orientation does not prioritize solar access (pg. 43)
- Senior Government Barrier 2 - Ministry of Transportation and Infrastructure Engineering Standards may hinder green infrastructure (pg. 44)

discussion

The MOTI is the approving authority for subdivisions in the RDN. The RDN specifies zoning and Development Permit Area Guidelines that regulate development within subdivided land. VIHA regulates small wastewater systems (less than 22,700L/ less than 20 lots), while the MOE regulates larger systems (greater than 22,700L, greater than 20 lots).

Current Subdivision Standards

RDN staff and stakeholders noted that the lack of subdivision standards hindered some green building practices. The following barrier was noted:

Solar Orientation

Currently, there are no standards that prioritize appropriate solar streets orientation. Street layout typically dictates the orientation of houses. Streets oriented on an east-west axis, plus or minus 15 degrees, will maximize buildings' solar access.

Other Opportunities

Other barriers, not revealed in this analysis, may be at play during subdivision. The RDN should further review subdivision barriers internally, with the MOTI, and stakeholders as it develops a Subdivisions Standards Bylaw. Moreover, such a Bylaw presents an opportunity to encourage a variety of green building, infrastructure, water management, transportation, and land use strategies. While outside the scope of this analysis, the RDN should examine opportunities to encourage such green neighbourhood elements as it develops a Subdivision Standards Bylaw. Green community elements to consider include:

- District energy
- On-site renewable energy generation
- On-site wastewater management
- Transportation infrastructure that supporting a range of transport choices (walking, biking, transit, etc)
- Mixed use communities

implementation tasks

1. Review green subdivision standard opportunities

Coordinate internally, with the MOTI and with stakeholders, about the scope and opportunity to encourage greener subdivision practices.

2. Draft and Adopt Bylaw

At minimum, address issues of solar orientation. Incorporate other green standards where applicable.

Implementation Roles and Responsibilities	
Responsible Departments	Role
Long Range Planning , Current Planning, Water and Wastewater Services	Standards review, consultation, drafting

7.7

incentive & recognition program

It is recommended that the RDN initiate a Green Building Incentive Program (GBIP). Incentives may be comprised of building permit fee rebates and/or another pool of incentive funds, thereby covering buildings outside of Building Inspections Areas. Provide incentives for:

- Part 9 construction (single family and low-rise residential construction)
 - An EnerGuide rating (or proof of equivalent energy performance), and validation of water efficiency performance, both in excess of BC Building Code and other requirements
- Part 3 construction (high-rise residential and commercial construction)
 - Third party verification that the development has implemented an “RDN Green Strategy,” outlining near Net Zero/green building features that go beyond the BC Building Code and other requirements

Incentives should be subject to post-construction audit and verification by a third party. The RDN should publicly recognize successful projects.

It is further recommended that the RDN Board issue a directive ‘strongly encouraging’ rezoning candidates to commit to meet or exceed the Green Building Incentive Program standards through a Section 219 Land Title Act covenant, or another suitable means of commitment, and coordinate with the MOTI to encourage similar commitments during subdivision.

barriers addressed

- Market Barrier 2 – Costs; Split Incentives (pg. 27)
- Market Barrier 5 – Buyers Sensitive to First Costs (pg. 30)

discussion

Various leading Canadian local governments (including the District of Saanich, City of Calgary, and others) rebate a portion of building permit fees for green building performance. Providing monetary incentives for [Near] Net Zero performance is a means of reducing the split-incentive facing developers, and of generating market demand and public interest in green buildings. Likewise, public recognition of high performance and [Near] net-

zero projects has proven to be a worthy strategy of generating awareness of the import and opportunity to construct greener buildings.

Incentives must be tied to building performance - nominally energy and water efficiency (the key accounts for near Net Zero performance), but potentially broader (for example LEED performance categories). Performance standards should be referenced in the Community Builder Checklist (see recommendation 7.8). Performance standards should be differentiated between Part 9 and Part 3 buildings.

Part 9 - single family & low-rise residential construction

Part 9 buildings’ success in approaching Net Zero energy and water can be measured using an EnerGuide rating and water savings projections beyond a typical baseline, respectively.

Energy efficiency measures - EnerGuide

The EnerGuide home energy rating system is a well established means of benchmarking homes’ energy performance. The rating can apply to single family homes, as well as low-rise residential buildings with multiple units. Ratings from 0 to 100 are generated using computer modeling of building components, combined with real building air leakage measurements. In general, the higher the EnerGuide rating, the more efficient the home. The 2010 BC Building Code is expected to include standards for Part 9 construction that achieve an EnerGuide rating of 80 when good construction practices are followed. Table 1, on the next page, lists EnerGuide ratings of different construction types, including proposed incentive thresholds (thresholds are outlined in greater detail in the implementation tasks section - p. 63).

Water efficiency measures

The RDN could develop a baseline water efficiency performance standard that new homes must exceed to qualify for incentives. Performance could be calculated on a customized spreadsheet tool, whereupon applicants enter actual fixture flow rates, appliances, and landscaping strategies.

Typical EnerGuide Ratings		Rating
Type of House		
Older Home		0-65
Current B.C. Building Code - Prescriptive Path		69-74
Current B.C. Building Code - Performance Path		77
Anticipated 2010 B.C. Building Code		80
Proposed 30% Building Permit Fee Rebate Threshold		83
Proposed 50% Building Permit Fee Rebate Threshold		85
Proposed 100% Building Permit Fee Rebate Threshold		90
Net Zero Energy Home		91-100

Table 1: EnerGuide Ratings (proposed rebate thresholds are outlined in greater detail in the implementation tasks section - p. 63)

Administering Incentives for Part 9 Developments

Following is a summary of the recommended process for Part 9 projects pursuing incentives:

1. Upon completion of construction, a Certified Energy Advisor conducts an EnerGuide audit of the home. In attached or multiunit residential buildings, random representative sample EnerGuide ratings could be averaged by floor space. (Note: the RDN may consider developing internal capacity to provide EnerGuide inspections, to serve as an additional option for applicants in case private sector Advisors are not available. In the future, this may be a required to test BC Building Code energy performance compliance.)
2. The applicant completes the RDN's Water Efficiency Spreadsheet
3. The applicant submits both the EnerGuide audit and the Water Efficiency Spreadsheet to the Buildings Inspections Services desk
4. Rebates/incentives based on a simple formula (described below) are issued. Successful applicants should also be recognized by the RDN (recognition program components are described below)

Part 3 - high-rise residential and commercial construction

A variety of whole building performance rating systems, incorporating energy and water performance measures, are applicable to Part 3 buildings. The most well known of these systems is LEED. However consultation with the development community, and observations of local market conditions, indicate LEED may not be an inappropriate standard for the RDN at this time. Specifically:

- Costs and learning curves associated with LEED certified buildings are too onerous for the RDN market
- High certification fees, plus consultant fees
- LEED Canada for New Construction, developed primarily for office and institutional buildings, does not apply seamlessly to retail nor residential apartment building types, common Part 3 building types in RDN

For these reasons, it is anticipated that uptake of LEED in RDN would be limited in the short term. To encourage greater uptake of green building technologies and practices, it is recommended that the RDN adopt a 'Green Strategy Program' that is flexible, less onerous and inexpensive for developers, but begins to encourage green building innovation in Part 3 buildings.

Green Strategy Requirements

The structure of the Green Strategy (GS) provides flexibility to parcel developers in how the project contributes to green building and sustainability objectives. The performance categories, objectives and example strategies could be informed by the LEED Canada 1.0 New Construction rating system. To correspond with key Net Zero Building goals, minimum Energy and Water performance categories would be included. The RDN may wish to take a broader green building approach, and include most or all of the LEED categories.

To qualify as a candidate Green Strategy project, the GS would need to satisfy these overall criteria:

1. Green building features proposed must address, at minimum, energy and water performance and must go beyond minimum regulatory requirements, including the BC Building Code

2. The GS must specify the supporting documents or plans in the application for each feature, and specify the development project team member responsible for design of that feature – for example:

- Green Building Consultant
- Architect
- Landscape Architect
- Mechanical Engineer

Performance Categories

The RDN may choose to expand the scope of the GS, for example by referencing additional (or all) the performance categories in LEED:

- Sustainable Sites
- Water Efficiency
- Energy & Atmosphere
- Materials & Resources
- Indoor Environmental Quality

If a broad green building approach is to be taken, then it may be appropriate to link the incentives to a LEED equivalency score. Or, a simplified set of performance targets and requirements may be developed that is informed by LEED but adjusted for the RDN context. Figure 3, right, provides an example of a customized approach informed by LEED, showing only one performance category.

Administering the Green Strategy Program for Part 3 Developments

Following is a summary of the recommended process for a project pursuing RDN Green Strategy designation.

1. On a voluntary basis, the parcel developer submits a completed GS with a building permit application (or only the GS if outside Building Inspection Areas). The GS specifies the green building features and performance levels that will be implemented as part of the proposed development project, and how these are documented in the application. The GS requirements are not prescriptive, but allow developers to create

Performance Category: 2.0 Reduce Potable Water Consumption

Objectives:

- Maximize water efficiency within buildings to reduce potable water consumption and the production of wastewater
- Reduce or eliminate the use of potable water for landscape irrigation

Example Technologies and Strategies:

- Use xeriscaping techniques, water-wise or drought tolerant plant species
- Install no irrigation system or specify the landscape irrigation system to be highly efficient and/or removed from use after 2-3 years
- Concentrate plants in larger landscaped clumps near to buildings rather than in middle of parking lots
- Collect and re-use rain water for irrigation
- Install high efficiency (low flush/dual flush) toilets
- Waterless or ultra-low flow urinals in commercial bathrooms
- Low flow faucets, shower heads, pre-rinse heads for restaurant kitchens, etc.
- Specify high efficiency appliances for residential suites
- Install water sub-metering

No.	Proposed Features (Systems, Materials, etc.)	Target Performance	Reference Documents	Responsibility
1.1	Water-wise landscaping, no irrigation.	75% of landscaped areas	Landscape Plan Irrigation Plan	Landscape Architect
1.2	Dual flush toilets in all washrooms	Decrease indoor water consumption by 20% compared with typical use		Mechanical Engineer

Figure 3: Green Strategy Example. This example illustrates the content of a “customized” Green Strategy showing only one performance category.

their own strategy that meets GS performance objectives. In the case of a developer intending to utilize a recognized 3rd Party Green Building System certification, such as LEED, this could also qualify as at least equivalent to the GS, and be eligible for any associated incentives.

2. The parcel developer or the RDN assigns a Green Strategy Auditor (a qualified consultant). The Auditor reviews the GS and supporting documentation prior to submission, and submits a letter indicating that the review has been completed, which is attached to the GS.
3. Following construction, the Auditor verifies that the green building features listed in the GS have been implemented, and issues a letter confirming that this has been completed. The Auditor will also issue a short project profile using a template provided by the RDN, highlighting the relevant Net Zero/green features of the project. The letter and profile will be submitted to the RDN by the Auditor.
4. Once the letter has been received and other appropriate regulatory requirements have been met, the RDN will:

- Issue a rebate to the developer
- Recognize the project

The rebate should at minimum cover the incremental cost of the writing the GS and all auditor costs. It is provisionally estimated that the cost to developers of writing the GS and having the Auditor execute the tasks described above would be in the range of \$5,000 and \$20,000, varying with the size of projects and extent of the GS.

Green Strategy Guidance

The RDN should develop a Green Strategy Guidance document to aid development of the Green Strategy by developers/designers. For each performance category, guidance should:

- Outline objectives
- Provide example technologies/strategies
- Include a strategy documentation template

The Value of Incentives

The incentive levels proposed in the Implementation Tasks section (below) are comparable to those offered by the District of Saanich and City of Calgary. These values will not cover the full incremental cost premiums of achieving the associated EnerGuide scores, and may only cover a portion of the costs of GS commitments. However, such incentives will provide a platform for the RDN to conduct outreach encouraging greener buildings in the community, and will improve the economic case for green buildings. The RDN should review incentive levels after a few years, to assess whether they are increasing uptake of green buildings at current levels. The RDN may also examine whether additional financing and/or incentive tools can further increase the uptake of green building.

implementation tasks

1. Develop Green Building Incentive Program Criteria

Part 9

- Finalize EnerGuide scoring requirements for various incentive levels
- Develop Water Efficiency Spreadsheet and efficiency criteria

Part 3

- Finalize scoring requirements for GS program
- Finalize policy to implement GS program
- Develop GS Guidance document
- Develop Auditor criteria; consider an RFQ to identify qualified auditors

2. Implement Green Building Incentive Program Building Permit Fee Rebates and/or Other Incentives

It is recommended that the RDN implement a system of Building Permit Fee Rebates for projects within Building Inspection Areas. Outside of Building Inspection Areas, a separate pool of rebate funding may be offered. Alternately, all rebates may be sourced from this separate fund.

The RDN can increase building permit fees to encourage a revenue neutral permit fee program. Assuming that the Green Plan is adopted by 20% of permit applications by value, a 10% increase in fees would make permitting rebates roughly revenue neutral.

Potential permit fees and incentive levels are listed in Table 2 below. Current Building Permit fees are listed, as well as proposed future fees and rebates.

Incentive thresholds should be adjusted in coming years, as best practices and code becomes more rigorous. The RDN should consider switching from the GS to a LEED standard in the future.

Proposed Green Building Fee	2010 Fees	Potential Fee / Incentive Structure
Building Permit Fees	1% of value of construction	1.1% of value of construction
Part 3 Rebates		
EnerGuide 83 + 10% water savings	n/a	0.3% of value of construction
EnerGuide 85 + 20% water savings	n/a	0.6% of value of construction
EnerGuide 90 + 40% water savings	n/a	1.1% of value of construction
Part 3 Rebates		
Green Strategy Verification (could also be tiered based on scoring criteria)	n/a	\$5,000 + 0.3% of value of construction

Table 2: Proposed fee and incentive structure.

3. Consider a contingency or cap

Should the GBIP system experience substantial uptake, funding may not be sufficient to cover rebates. The RDN could address this in two possible ways:

- Create an additional contingency fund, and/or
- Create a funding cap, with supporting policy indicating that should funds be exhausted, the rebate program may be suspended

4. Design and Implementation Public Recognition Framework

The RDN should include the following elements in its public recognition system:

1. The RDN issues a letter to the parcel developer confirming that the project has qualified for the GBIP
2. The project profile is included on the RDN's web site
3. The RDN may also consider creating a plaque/decals for qualifying buildings; and/or may consider other promotion methods such as an annual Council Award for outstanding projects

5. Encourage [Near] Net Zero Building at Redesignation and Subdivision

The RDN Board should consider issuing a directive 'strongly encouraging' applicants for rezoning to commit to achieving the minimum GBIP criteria in all buildings developed on the parcel.

Implementation Roles and Responsibilities	
Responsible Departments	Role
Current Planning and/or Sustainability and Energy	Program development and implementation.

7.8 revise checklist

It is recommended that the RDN revise its Sustainable Community Builder Checklist currently applied during rezoning and development permitting applications, to reference performance based green building strategies and the Green Building Incentive Program (GBIP).

barriers addressed

- RDN 6, 7 - The Community and Site Impact Review, and Impact Report, do not reference Net-Zero criteria (pg. 36)
- RDN 9 - The RDN's Sustainability Checklist lacks incentives for green building performance. The checklist applies to all development scales, and is open ended, reducing its utility (pg. 38)

discussion

During workshops, stakeholders and staff noted that the Sustainable Community Builder Checklist is:

- Open-ended, lacking performance metrics to guide developments
- Focused on large developments, providing inappropriate criteria for smaller developments. Criteria within the checklist's Community Character and Design and Economic Development sections do not pertain to small redevelopments
- Not tied to any form of incentive or penalty, limiting attention to criteria and fostering cynicism

For these reasons, the Checklist is often cursorily completed and has not contributed substantially to the uptake of green building, missing an opportunity to encourage greener building practices.

implementation tasks

1. Revise the Review Form and Checklist

The Checklist should be revised to:

- Reference specific performance criteria – if the GBIP is adopted, its criteria should be referenced and explained. Additional criteria could also be referenced, serving an education purpose

- Be tiered according to the type of building (Part 9 vs. Part 3), and to the scale of development. To tier applications to the scale of development, consider using some floor area or unit number threshold, at which point criteria relating to transportation, Community Character and Design, Economic Development, and other broader community impacts apply

Implementation Roles and Responsibilities	
Responsible Departments	Role
Current Planning	Checklist revisions

7.9 development permit areas

It is recommended the RDN adopt new Energy and Water Conservation Development Permit Areas (DPA) Guidelines, applied to areas currently with and without development permit areas.

barriers addressed

- RDN 3 - Regional Growth Strategy and Official Community Plans' guidance does not encourage Net Zero buildings (pg. 33)
- RDN 4 - Development Permit Area Guidelines could encourage Net Zero (pg. 34)

discussion

In the 2008 Bill 27, the Local Government (Green Communities) Statutes Amendment Act, the Provincial Government granted Local Governments new powers with regards to DPA Guidelines. Local governments may designate development permit areas for the purposes listed under new subsections 919.1 (h), (i) and (j) of the Local Government Act (LGA):

- Establishment of objectives to promote energy conservation
- Establishment of objectives to promote water conservation
- Establishment of objectives to promote the reduction of greenhouse gas emissions

Development permits for land designated under these new subsections may now include requirements respecting:

- Landscaping
- Siting of buildings and other structures
- Form and exterior design of buildings and other structures
- Specific features in the development
- Machinery, equipment and systems external to buildings and other structures

Encouraging Passive Design

Siting, building form, exterior design, and landscaping strategies comprise key elements of Tier One Passive Design Strategies – they are hallmarks of [Near] Net Zero buildings. The RDN can 'hardwire' requirements for such strategies into Development Permit Guidelines.

There is precedent for such work – the District of Saanich has adopted form and character guidelines encouraging passive design strategies.

Exploring Other Green Building Features

The LGA states that 'specific features' and 'machinery, equipment and systems external to buildings' can be specified in DPA Guidelines. This provision may provide opportunities to require [Near] Net Zero archetypal strategies, potentially including:

- Renewable energy generation
- District energy connection compatibility
- Alternate heating systems, such as heat pumps
- Rainwater collection and reuse
- Other opportunities

The full range of green features that could be considered in development permit areas remains to be established. The RDN is advised to seek formal legal advice before initiating development of DPA Guidelines prescribing such features.

implementation tasks

1. Initiate a study of Energy and Water Conservation DPA Guidelines

The RDN should undertake a study to develop Energy and Water Conservation Guidelines. Consider undertaking the study in partnership with other local governments.

Guidelines to encourage passive design should include:

- Optimal solar orientation
- Optimal building siting, to facilitate solar access
- Optimal glazing (window) ratios on south, west, east and north walls
- Provisions of thermal mass in walls to facilitate passive solar heating
- Building projection (eaves, patios, etc) guidelines to facilitate passive shading of windows during the summer, and solar access during the heating season
- Other exterior shading features
- Landscaping strategies to encourage increased solar exposure during the heating season, and shading during the cooling season
- Water-wise landscaping strategies

Seek legal counsel regarding requiring:

- Renewable energy generation
- District energy readiness
- Alternate heating systems
- Rainwater capture and reuse

2. Liaise with stakeholders regarding DPA Guideline Development

The RDN should test its DPA Guidelines with developers, builders and the public. Undertake architectural testing of guidelines, to determine impacts on buildings form and character.

Implementation Roles and Responsibilities	
Responsible Departments	Role
Current Planning, Long Range Planning and/or Building Inspection Services	Development and Implementation