

REGIONAL DISTRICT OF NANAIMO
SUSTAINABILITY SELECT COMMITTEE
TUESDAY, MARCH 17, 2015
1:30 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 Tuesday September 16, 2014.
- 5 - 12 Minutes of the Drinking Water and Watershed Protection Technical Advisory Committee held on Thursday November 27, 2014.

BUSINESS ARISING FROM THE MINUTES

COMMUNICATIONS/CORRESPONDENCE

UNFINISHED BUSINESS

REPORTS

- Energy and Sustainability Program Overview (Presentation).
- Quarterly Energy Update (Presentation).
- 13 - 20 Green Building Action Plan 2015.
- 21 - 29 Green Building Incentive Program 2015.
- 30 - 40 Strategic Energy Management Terms of Reference.
- Regional Growth and Long Range Planning Program Overview (Presentation).
- Drinking Water/ Watershed Protection Program Overview (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, C. Haime, J. Kipp, W. Pratt, M. Lefebvre, T. Westbroek, P. Thorkelsson, G. Garbutt, C. Midgley, T. Pan, M. Donnelly, J. Pisani, N. Hewitt
J. Fell

For information only: B. Rogers, B. McKay, B. Bestwick, J. Hong, I. Thorpe, B. Yoachim, D. Sailland, T. Graff, F. Manson, T. Swabey, J. Hill, C. Golding, Matt O'Halloran

REGIONAL DISTRICT OF NANAIMO

**MINUTES OF THE SUSTAINABILITY SELECT COMMITTEE
MEETING HELD ON TUESDAY, SEPTEMBER 16, 2014 AT 2:03 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 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
R. Alexander	General Manager, Regional & Community Utilities
C. Midgley	Manager, Energy & Sustainability
M. Donnelly	Manager, Water & Utility Services
T. Pan	Sustainability Coordinator
J. Pisani	Drinking Water & Watershed Protection Coordinator
N. Hewitt	Recording Secretary

Regrets:

Director D. Brennan	City of Nanaimo
Director J. Kipp	City of Nanaimo

CALL TO ORDER

The Chairperson called the meeting to order at 2:03 pm.

MINUTES

MOVED Director de Jong, SECONDED Director Houle, that the minutes of the Sustainability Select Committee meeting held on Thursday June 12, 2014 be adopted.

CARRIED

MOVED Director Lefebvre, SECONDED Director de Jong, that the minutes of the Drinking Water and Watershed Protection Technical Advisory Committee held on Wednesday July 23, 2014 be received.

CARRIED

BUSINESS ARISING FROM THE MINUTES

First Nation Engagement

MOVED Director Veenhof, SECONDED Director Houle, that staff advise First Nation communities when Sustainability Select Committee meetings take place, and cordially invite First Nation representatives to upcoming Sustainability Select Committee meetings.

CARRIED

REPORTS

Release of Corporate Climate Action Reserve Funds – September 2014.

MOVED Director Veenhof, SECONDED Director Lefebvre, that the Board approve the release of up to \$30,000 from the Corporate Climate Action Reserve Fund for investment in a variable frequency drive pump speed controller for the Departure Bay Pump Station.

CARRIED

MOVED Director Veenhof, SECONDED Director Lefebvre, that the Board approve the release of up to \$4,500 from the Corporate Climate Action Reserve Fund for the regional purchase of SMARTTool.

CARRIED

2014 Regional Emission Reduction Projects.

MOVED Director Veenhof, SECONDED Director McPherson, that staff proceed with developing a request for proposals from qualified professionals to evaluate potential legal instruments and develop the legal language necessary to protect private forest land in perpetuity for the purpose of implementing regional emission reduction projects.

CARRIED

Quarterly Energy Update (presentation).

MOVED Director Willie, SECONDED Director Veenhof, that the verbal report on Quarterly Energy Update be received.

CARRIED

Energy & Sustainability – Ongoing Initiatives (presentation).

MOVED Director Veenhof, SECONDED Director Lefebvre, that the verbal report on Energy & Sustainability Ongoing Initiatives be received.

CARRIED

Drinking Water Watershed Protection Technical Advisory Committee Information Package.

MOVED Director Veenhof, SECONDED Director Young, that the verbal report on Drinking Water Watershed Protection Technical Advisory Committee be received.

CARRIED

ADJOURNMENT

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

CARRIED

Time 3:47 pm

CHAIRPERSON



**MINUTES OF THE REGULAR MEETING OF THE
DRINKING WATER AND WATERSHED PROTECTION
TECHNICAL ADVISORY COMMITTEE
HELD ON THURSDAY, NOVEMBER 27, 2014 AT 1:30 PM**

Present:

Mike Donnelly, CHAIR	Manager, Water & Utility Services, RDN
Peter Law	General Public Representative (North)
Pat Lapcevic.....	Ministry of Forests, Lands and Natural Resource Operations
Faye Smith.....	Environment Community Representative
Ken Epps.....	Forest Industry Representative, Island Timberlands
Chris Cole	Forest Industry Representative, TimberWest
Kate Miller	Manager, Environmental Initiatives, CVRD
Raluca Hlevca	Academic Community Representative (for Oliver Brandes)
Rosie Barlak.....	Registered Professional Biologist Representative (for Deb Epps)
Leon Cake	Water Purveyors' Representative
Barbara Silenieks	City of Parksville (for Mike Squire)
Bill Sims	Manager, Water Resources, City of Nanaimo
Gary Anderson.....	Island Health Representative
Linda Brooymans.....	Academic Community Representative, VIU (for Alan Gilchrist)
.	Director of Engineering, Town of Qualicum Beach
Bob Weir.....	

Regrets:

Courtenay Simpson	Islands Trust Representative
Gilles Wendling	General Public Representative (South)
Kirsten Fagervik	Ministry of Transportation and Infrastructure
Alan Gilchrist	Academic Community Representative (VIU)
David Vincent	Hydrologist Representative (Northwest Hydraulic Consultants)
Deb Epps	Registered Professional Biologist Representative
Oliver Brandes.....	Academic Community Representative
Mike Squire	City of Parksville / Program Manager, Arrowsmith Water Service
Lynne Magee.....	Island Health

Also In attendance:

Julie Pisani	Drinking Water and Watershed Protection Coordinator, RDN
Alex King.....	Special Projects Assistant, RDN
Deanna McGillivray	Special Projects Assistant, RDN
Shelleen Schultz	Recording Secretary, RDN
Randy Alexander	General Manager, Regional & Community Utilities, RDN
Craig Sutherland.....	Kerr Wood Leidal Engineering

CALL TO ORDER

M. Donnelly called the meeting to order at 1:25 pm.

MINUTES

MOVED Mike Donnelly, SECONDED Ken Epps, that the minutes from the regular meeting of the Drinking Water and Watershed Protection Advisory Committee held July 23, 2014 be adopted.

CARRIED

BUSINESS ARISING FROM MINUTES

M. Donnelly summarized the main priorities of the committee, based on the remarks of committee members at the last meeting:

1. Communication and raising awareness of watershed issues, health and sustainability with the community including elected representatives and developers.
2. To continue to pursue a higher level of scientific understanding of our surface water and groundwater resources, including understanding cumulative effects on availability and quality.
3. Integrating management approaches and working with First Nations. There was a great discussion with First Nations the last meeting that has helped us move forward.

COMMUNICATIONS/CORRESPONDENCE

Letter from K. Fagervik, MOTI Approving Officer, Re: Provision of Water for Subdivision (Was not presented as K. Fagervik could not attend the meeting)

J. Pisani gave a brief summary in K. Fagervik's absence about the importance of the RDN and MOTI working together to update and streamline requirements for water for subdivision. MOTI is the approving officer for subdivisions in rural areas and has expressed interest in working in partnership with the RDN in order to strengthen the language for provision for water and create consistency between the MOTI and the RDN. RDN is concurrently looking to update subdivision Bylaw 500 and sees this as a great opportunity to align with MOTI in improving requirements. At a later meeting we hope to hear more from MOTI, as they are going through a core review of their requirements including for proof of water for subdivision and they would like the participation of local government in this review as well. Particularly of interest is establishing a standard of practice with hydrogeological assessments in order to provide consistency of language and a framework for a long term data bank of groundwater reports.

J. Pisani outlined potential updates to water requirements for subdivision and then opened the floor to discussion.

- M. Donnelly commented on the Parker Road Well in Nanoose and concerns that arose from the lack of advance notification and proper communication with residents in immediate and surrounding areas in a certain radius of the subject well, suggesting that communication protocols may be something to add to new requirements

- B. Sims suggested that the updated water requirements for subdivision use the definition of potable water as defined by Island Health, as a way to streamline with the local agency to point to the Canadian Drinking Water Guidelines.
- P. Lapcevic questioned how the “adverse impacts” on groundwater supply are defined? There is a need to define the language and using more progressive, consistent interpretation of pump testing (see work done by Vicki Carmichael).
- G. Anderson commented that if you stick too closely to Canadian Drinking Water Objectives, you may have lots not approved due to aesthetic issues rather than health issues. Need requirements to allow for treatment that deals with water concerns. There is a need for wells tested on each fee-simple lot as a requirement from developers... this would prevent unmanageable systems by identifying water issues prior to subdivision/ development. A Subdivision Best Practices Guidelines document that was in production by Opus Dayton Knight for the Province was 95% complete and could be used as a guideline document for Approving Officers to use and apply. This should be something that is looked into again for completion and possible utilization.
- G. Anderson went on to say that we need to look at cumulative impact when performing hydrogeological assessments i.e. nitrogen input and that distinction should be made between community water systems and individual wells.
- M. Donnelly inquired as to the contact information that could be used to locate the Subdivision Best Practices document.
- M. Donnelly commented that this is in the preliminary stages and we will be working on a path for the next six months. During this time ideas and suggestions are welcomed and encouraged for the definition process.
- P. Law asked if MOTI is updating their subdivision approval documents? That would give the opportunity for other issues to be addressed such as storm water.
- J. Pisani responded that at this time the focus of working with MOTI is on updated requirements in on Water Provision for Subdivision, but yes there is an opportunity to look into the issue of storm water management requirements in rural areas with MOTI as well.
- K. Miller requested that the RDN staff work more closely with the CVRD as they have gone through the process of updated engineering standards years ago. Those updated CVRD standards were submitted to the Province and they have been waiting 4 years to hear back. There is an opportunity for a unified document if RDN works with CVRD.
- M. Donnelly concurred that this would be a great idea and asked if the document mentioned had been delayed due to waiting for the final Water Act?
- F. Smith wanted to know if people with questions could refer to the Water Budget document from last year?
- J. Pisani responded that one of the recommendations coming out of the water budget study was to look at cumulative impacts on groundwater and also to have standardized groundwater reporting which would be part of the development approval process.
- F. Smith wanted to know with all of the development going on around Wembley Mall: were the water budget study results considered as a part of that development approval?

- J. Pisani commented that once the improved language and the strengthened requirements are in place it is possible that previous developments may not have qualified but we can use what we know about our water to make better decisions regarding land use in the future.
- M. Donnelly commented that we will keep moving forward taking into consideration that there are political issues as well.
- J. Pisani commented that the advisory committee helps steer the implementation of the DWWP Action Plan and guides the direction of the program. By using the information provided by Program 2 (the data we collect) to protect the water resources, all of the information gathered is couched in the implementation of our action plan.

Implementing Program Action 3 (Land Planning and Development Discussion (J. Pisani)

J. Pisani presented Program Action 3 for Land Planning and Development outlining its goal to protect the Region's watersheds and water resources in land use planning and development decisions. The floor was then opened for discussion and input.

- K. Miller asked if the groundwater vulnerability and the DRASTIC work were nested in this Action 3 as it did not jump out.
- J. Pisani responded that the vulnerability mapping project comparing vulnerability to quality issues based on surface activities is covered but not specifically in the Action Plan as the work was done either concurrently or after. However this issue will be covered in Action 5 which is the water quality monitoring action.
- M. Donnelly commented that the drastic and vulnerability work that was done subsequent to this plan and the information gathered early on is not lost and will be utilized and reviewed during these exercises
- B. Sims wanted to briefly answer and say that the second objective is adequate, good quality sustainable drinking water and this is the overarching thing and you can point back to that when moving forward.

REPORTS

Regional Hydrometric & Climate Monitoring Scoping Study update presentation

C. Sutherland from Kerr Wood Leidal summarizing the study goals and objectives, process and costs of data collection and how they vary due to climate and accessibility and then the floor was opened for discussion.

- M. Donnelly requested an overview cost to install and maintain the hydrometric stations from B. Weir from the Town of Qualicum Beach as they have had a new station installed.
- B. Weir responded that he believes the install cost was roughly \$15,000 and the annual operating cost seems to be around \$8,000. The new station is almost on the location of a pre-existing station which helps because you have historic information to compare changes in the streamflow over time.

- M. Donnelly asked J. Pisani if a committee will be getting together again before the end of the year to review further information
- J. Pisani responded that there is a TAC sub-committee getting together early in the new year to review Craig's report when submitted. . This sub-committee has helped establish the direction taken with this study by bringing together stakeholders with interest in hydrometric and climate data and includes partners beyond the TAC such as Water Survey of Canada, Ministry of Environment hydrometric specialists from Victoria, FLNRO staff Brian Epps and Neil Goeller. The next TAC meeting in the spring will show what information has come out of the subcommittee meeting.

Community Watershed (Water Quality) Monitoring Network – 2011-2013 Three Year Trend Report was presented by R. Barlak and J. Pisani.

R. Barlak reported to the committee that the Three Year Trend Report for the results of the Community Watershed Monitoring Network 2011- 2013 was now published by the MOE and available on the RDN website. She explained that this year's community watershed monitoring network had 9 community groups monitoring water quality in 17 watersheds at 50 sites. This was a very successful fourth year of the program with great participation and data collected. The sampling for this year has just ended so the data has not been reviewed yet but will be in the near future. Some groups took extra samples and sent them into a lab for analysis to investigate if some turbidity results seen in previous years were linked with higher levels of phosphorous or microbiological contamination. Next, we will look into connections between land use activities and water quality results, to incorporate that information as well. The project is ongoing and continues to go very well.

- M. Donnelly wanted to thank the MOE again for their help and review time as it is very valuable to the region's understanding of water quality in our rivers, creeks and streams.
- J. Pisani presented a land use map around some of the water quality sampling sites and explained some of the data found and how land use practices could be used to determine what is needed for improved water quality and outline the land impact on the water.

UPDATES

Water Use Reporting Centre update presented by J. Pisani

J. Pisani updated the committee on the implementation of the **Water Use Reporting Centre (WURC)** software that enables water service providers in the RDN to enter water use data into a secure web-based interface to help quantify regional water demand to ultimately contribute to more accurate a water budget calculations and provide a dashboard to inter-relate water use with other local data like precipitation or compare to other water service providers. At this point the RDN has supported mainly the groundwater component of the software with the majority of software development done by the Okanagan Basin Water Board, with the long term vision of this becoming a provincially implemented tool. The four municipalities and the RDN are currently using the tool, and a roll-out to improvement districts and other water purveyors in the region is planned for 2015.

- K. Miller asked if the information is on an automated SCADA upload or is the data keyed in by manual entry. Second question: in the private sector are you providing incentives or strongly requesting the data or how is the data collected?
- J P isani responded that there is double data entry right now and there is no SCADA upload. There has been good participation thus far as it benefits each area to know their water usage information. Right now the program has been lucky with voluntary participation by municipal water providers and interest has been shown by smaller water systems at water purveyor working group meeting. Possibly later on it may become a mandatory requirement with Provincial groundwater regulations under the new Water Sustainability Act.
- B. Sileniks commented that the double uploading of data is working well at this point and is not terribly time consuming and it is nice to be able to see the report and graph
- B. Sims commented that the information will help with the production of an annual water report that we are required to submit.
- G. Anderson wanted to know if the information helps with leak detection
- J. Pisani commented that it does within the water audits
- B. Weir had an issue that not all municipal water is metered with respect to special circumstance water usage such as irrigation of parks and Qualicum Beach supplying the water to the Fire Department for surrounding fires. How then would this water usage be captured in the data?
- M. Donnelly responded that the data collected is used as more of an indicator for water budget calculation of water demand and usage, and is not fine grained where special circumstance water usage would cause an issue.

Team WaterSmart Education and Awareness update by D. McGillivray and A. King

A. King outlined how Team WaterSmart was engaged in **school field trips** which provided an engaging experience for the students that seemed to cause retention of the information in the students. The students learned about the water cycle, resource use, forestry, drinking water and infrastructure. They learned how they get their drinking water, about ecosystems and wildlife that rely on water, wilderness safety and land use by use of games and visual activities. There was also discussion of where other children around the world get their water. These fieldtrips are meant to emphasise the importance of our local watersheds seeing as young people are so indoor orientated these days.

Salomon the salmon a puppet purchased by Team WaterSmart for **pre-school** children have been introduced and it is the hope that these visuals will help engage the pre-school students to retain information about water and its conservation. Team WaterSmart would welcome any input from other areas that that can be incorporated into the program.

A. King provided a PowerPoint slide and then discussed the **well upgrade rebate program** which includes upgrades to existing residential wells in the RDN if they, upon inspection, require work to be done to improve groundwater protection. This year there have been 26 rebates given out in total with Gabriola Island being the front runner of participation. There were 11 rebates given for well caps, 8 rebates for stick up, 6 rebates for surface seals and 1 close well rebate. Along with the well upgrade rebate program there is also a **well water quality testing rebate** going on this year which has seen good uptake with over 200

participants to date and about 80 percent of the participants are willing to share their information from their testing which can in turn be added to ongoing data collection.

D. McGillivray presented an update on the **rainwater harvesting rebate program** this year, that 24 applicants have already received their rebates and they are still processing applications as the program had a bit of a late start this year. There was even 1 indoor system and there was a large 18,000 gallon system that also applied for the rebate.

D. McGillivray went on to present the stats of the **residential irrigation checkup program** performed by Team WaterSmart, where participants from 2013 were investigated for their water use this past summer, to see if reductions in water use were observed. Most participants had indeed reduced water use, considering precipitation and weather differences between this year and last year. There were also irrigation checkups done for stratas this year which was a focus for the program. This year's participants' water use will be analyzed after next summer to see if reductions were made as a result of the irrigation checkup.

D. McGillivray presented the Home Water Consumption Report or **enhanced water billing** report which originated from the 2013 Water Conservation Plan as one of the recommended actions for the RDN Water Service Areas to encourage water conservation. This enhanced water billing report includes information to the residents as to how their water use compares to their previous bills and to the rest of their community. The customer's usage category (i.e. Skillful Saver, Room for Improvement, Take Action) is shown based on where they fit into the water billing structure. A test form was sent out to one small water service area in Surfside to pilot this enhanced billing report. Next year the information will be sent out to other RDN Water Service Areas, and over time water meter readings will be observed to see if this communication makes an impact on water use reduction in these communities.

- K. Epps inquired about the cost of a cistern and if they are approved or regulated somehow?
- D. McGillivray commented that the system has to be CSA approved and the cost varies greatly anywhere from \$2000 up to \$30,000 dependent on the system installed and the location of the installation.
- J. Pisani commented that the average cost of a cistern installation last year was \$2700 which means on average people received more than a quarter of the cost back with the \$750 rebate.
- G. Anderson inquired as to what is required for a portable water cistern.
- D. McGillivray responded that in the rebate program the RDN does not deal with treatment regulations only the permits that are required for indoor plumbing and potable water lines if applicable and that other regulations are the applicants responsibility to source out.
- L. Cake commented that early childhood programs and pre-school years are very important information years and that 1 in 5 pre-school children are in poverty. He commended the RDN and Team WaterSmart with the passion they are showing in their programs and the information they are providing to children.

J. Pisani gave credit to L. Cake who made the suggestion at the last meeting, and to the Qualicum First Nation, who has invited Team WaterSmart to provide their first pre-school program.

Watershed Partnerships Session (Sept. 26th) update presented by M. Donnelly

M. Donnelly summarized the Watershed Partnerships Session that occurred in September as part of the **Inter-Regional Education Initiative** which includes 5 regional districts, each committed to a day to educate each other on their watershed projects. The RDN chose to give a session on Watershed Partnerships because the DWWP program relies on partnerships for its success thus far. The RDN is committed to watershed protection planning with first nations and moving forward in that direction. Leading up to this September session, DWWP staff worked with Snaw-naw-as (Nanoose) and Qualicum First Nation chiefs to co-create the program for that day. Snaw-naw-as hosted the start of the day at the Nanoose Health Centre prior to all travelling to the Englishman River Regional Park. Chief Bob (NFN) and Snaw-naw-as elders led the day and communicated mostly through storytelling. Other partners shared their stories of working together in our watersheds and this method of communication has a great impact and really engaged the listeners and provided an interesting point of view regarding the issues with and value of water.

- F. Smith commented that she was very impressed that the 2 Chiefs attended the session.

New Business

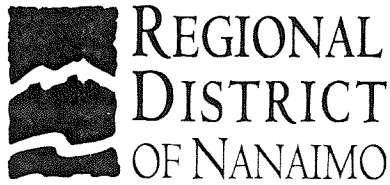
Business Arising from Communications

- B. Sims commended Team WaterSmart on being successful with getting everyone participating on education programs.
- K. Miller commented that CVRD walks away feeling encouraged and happy with the partnership and hopeful that we will be able to move forward more strategically in the future. One note was that they have just received funding from environment Canada to work on a predictive model and hydrological model for the Yellow Point Cedar area and have ensured that the boundary is not a political boundary but a watershed boundary and are hoping that this will help with the DWWP information as well.
- L. Bhopalsingh wanted to commend all who were involved in organizing the watershed tour her daughter was on and the feedback she got at home was excellent.
- C. Cole mentioned that his daughter attended a watershed tour as well and said it was excellent and stated that Team WaterSmart was doing a great job.

ADJOURNMENT

The meeting was adjourned at 3:33 pm.

Mike Donnelly, Chair



RDN REPORT	
CAO APPROVAL	
EAP	
COW	
MAR 10 2015	
RHD	
BOARD	

MEMORANDUM

TO: Chris Midgley
Manager, Energy and Sustainability

DATE: March 9, 2015

FROM: Ting Pan
Sustainability Coordinator

FILE: 6430-50-GBAP

SUBJECT: Green Building Action Plan 2015

PURPOSE

To propose an updated Green Building Action Plan.

BACKGROUND

The Regional District of Nanaimo (RDN) first created the Green Building Action Plan (the Plan) in 2007. Following the Board’s direction to incorporate recommendations from the report *Overcoming Barriers to Green Buildings in the RDN*, the Plan was updated in 2010. Since then, many initiatives have advanced the Plan. The following is a summary of major green building actions the RDN has completed since 2010:

- Annual Green Building Series since 2010;
- RDN *Energy Policy (Electricity)* approved in 2010;
- The first *Strategic Energy Management Plan* completed in 2011;
- Green Building Incentive Program established in 2011;
- Green Building Guidebook Series including Rainwater Harvesting Guidebook and Residential Renewable Energy Guidebook published in 2012 and 2013 respectively;
- RDN Church Road Transfer Station Expansion Project which achieved Leadership in Energy and Environmental Design (LEED) Gold standard through an Integrated Design Process (IDP) completed in 2011;
- RDN Community Energy and Emissions Plan completed in 2013;
- Green Building Outreach Strategy developed in 2014;
- Green Building Bylaw Amendments to Bylaws 500 and 1285 adopted in 2015.

To continue to make progress in the development of green buildings in the region, staff is proposing an updated Green Building Action Plan to remove completed or outdated items and to guide future initiatives and projects based on new direction in green building research and development. The areas of action from the Green Building Action Plan 2010 are reorganized and consolidated into actions in the updated Plan with new focuses.

Table 1 is a summary of the proposed changes.

Table 1: Summary of Proposed Changes

Action Plan 2010	Action Plan 2015	Changes
<ul style="list-style-type: none"> Develop Green Building Policies and Guidelines Reduce Regulatory Barriers and Providing Incentives 	<ul style="list-style-type: none"> Monitor and Develop Related Policies and Programs 	With a series of green building policies and program established, the focus is shifted to monitoring them and assessing the need for new or updated policies and programs.
<ul style="list-style-type: none"> Develop Educational Materials and Practical Toolkits Undertake Educational Activities 	<ul style="list-style-type: none"> Build Capacity 	While educational materials and activities will continue to be provided, the focus will be on providing opportunities for staff, residents and building professionals to acquire the ability and capacity to improve building performance.
<ul style="list-style-type: none"> Undertake Outreach Activities 	<ul style="list-style-type: none"> Implement Outreach Strategy 	To be more effective, the outreach activities will target specific stakeholder groups following the Green Building Outreach Strategy developed in 2014.
<ul style="list-style-type: none"> Conduct Research about Green Buildings 	<ul style="list-style-type: none"> Conduct Research 	The goal of the previous proposed research has been accomplished, with a better understanding of how to improve existing housing stock and the work to incorporate energy and water considerations into Development Permit Areas underway. The research will aim to identify opportunities for renewable energy production and understand local barriers and benefits of alternative building systems.
<ul style="list-style-type: none"> Build Partnerships Participate in Complementary Initiatives 	<ul style="list-style-type: none"> Collaborate with External Organizations 	The emphasis is on finding opportunities to share information, leverage external resources and partner with other organizations to develop mutually beneficial initiatives.

The full updated Green Building Action Plan 2015 is attached to this report as Appendix A.

ALTERNATIVES

1. That the updated Green Building Action Plan 2015 be approved as proposed.
2. That the updated Green Building Action Plan 2015 not be approved.
3. That alternate direction be given to staff.

FINANCIAL IMPLICATIONS

Staff will recommend implementation priorities and include a budget for selected components each year. Selected action items will form part of the annual Green Building Program and corporate Strategic Energy Management Program. Implementation of these actions is a major responsibility of the Energy and Sustainability staff and therefore a significant portion of the Sustainability Coordinator’s time is dedicated to the Green Building Action Plan. Funding sources for project and program delivery include the departmental budget for Energy and Sustainability; building inspection surplus revenue to support

Green Building incentives; Community Works Fund, typically for research activities and to support capacity building projects; the Regional Sustainability Initiatives Reserve Fund, the Corporate Climate Action Fund; and other external grants from utilities or senior levels of government.

STRATEGIC PLAN IMPLICATIONS

Items in the updated Green Building Action Plan play an important role in advancing the Strategic Priority of Economic Viability. One of the objectives under that Strategic Priority is “to build local expertise in green building; renewable energy technologies, materials and processes; and responsible stewardship of resources.” This is achieved in the Plan by increasing residents’ demand for green building technologies and features into new and existing buildings in the region through outreach, communication and education; while also building technical skills and capacity by working with the local development and construction industries to raise awareness and reduce barriers to the use of those technologies.

The Economic Viability Strategic Priority also includes the objective “to provide high quality services in a cost effective manner.” To this end, the Plan includes actions that focus on opportunities to reduce the cost of Regional District operations.


This demonstrates how the Green Building Action Plan takes an economic development based approach to support long-term resiliency and self-sufficiency, foster mutually beneficial partnerships, and facilitate innovation.

SUMMARY/CONCLUSIONS

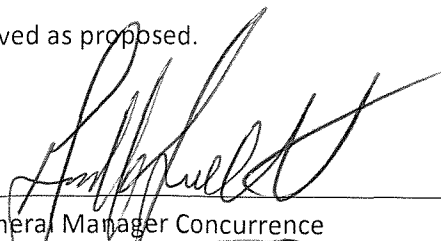
The RDN Green Building Action Plan was first developed in 2007 and updated in 2010. Since then, many actions have been completed or are underway. The revised Action Plan presents new direction in green building research and development and aims to facilitate the development of green buildings in the region through policy and program development, capacity building, strategic outreach, research and collaboration.

RECOMMENDATION

That the updated Green Building Action Plan 2015 be approved as proposed.



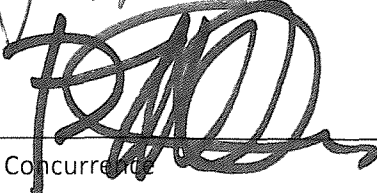
Report Writer



General Manager Concurrence



Manager Concurrence



CAO Concurrence

Background

Green buildings require significantly less energy and resources to operate, generate less waste and fewer emissions and provide more comfortable and productive environments for their inhabitants than average buildings.

The Regional District of Nanaimo developed the initial Green Building Action Plan (the Plan) in February of 2007. Following the Board's direction to incorporate recommendations from the report *Overcoming Barriers to Green Buildings in the RDN*, the Plan was updated in 2010. Since then, many action items have been completed following the Plan and are summarized below:

- Annual Green Building Series including workshops and open houses since 2010
- RDN Energy Policy (Electricity) approved in 2010
- The first Strategic Energy Management Plan completed in 2011
- Green Building Incentive Program established in 2011
- Green Building Guidebook Series including Rainwater Harvesting Guidebook and Residential Renewable Energy Guidebook published in 2012 and 2013 respectively
- RDN Church Road Transfer Station Expansion Project which achieved Leadership in Energy and Environmental Design (LEED) Gold standard through an Integrated Design Process (IDP) completed in 2011
- RDN Community Energy and Emissions Plan completed in 2013
- Green Building Outreach Strategy developed in 2014
- Green Bylaw Amendments adopted in 2015

To continue to make progress in the development of green buildings in the region, staff is proposing an updated Green Building Action Plan to remove completed or outdated items and to guide future initiatives and projects based on new direction in green building research and development. The areas of action from the Green Building Action Plan 2010 are reorganized and consolidated into actions in the updated Plan with new focuses.

Table 1 is a summary of the proposed changes.

Table 1: Summary of Proposed Changes

Action Plan 2010	Action Plan 2015	Changes
<ul style="list-style-type: none"> Develop Green Building Policies and Guidelines Reduce Regulatory Barriers and Providing Incentives 	<ul style="list-style-type: none"> Monitor and Develop Related Policies and Programs 	With a series of green building policies and program established, the focus is shifted to monitoring them and assessing the need for new or updated policies and programs.
<ul style="list-style-type: none"> Develop Educational Materials and Practical Toolkits Undertake Educational Activities 	<ul style="list-style-type: none"> Build Capacity 	While educational materials and activities will continue to be provided, the focus will be on providing opportunities for staff, residents and building professionals to acquire the ability and capacity to improve building performance.
<ul style="list-style-type: none"> Undertake Outreach Activities 	<ul style="list-style-type: none"> Implement Outreach Strategy 	To be more effective, the outreach activities will target specific stakeholder groups following the Green Building Outreach Strategy developed in 2014.
<ul style="list-style-type: none"> Conduct Research about Green Buildings 	<ul style="list-style-type: none"> Conduct Research 	The goal of the previous proposed research has been accomplished, with a better understanding of how to improve existing housing stock and the work to incorporate energy and water considerations into Development Permit Areas underway. The research will aim to identify opportunities for renewable energy production and understand local barriers and benefits of alternative building systems.
<ul style="list-style-type: none"> Build Partnerships Participate in Complementary Initiatives 	<ul style="list-style-type: none"> Collaborate with External Organizations 	The emphasis is on finding opportunities to share information, leverage external resources and partner with other organizations to develop mutually beneficial initiatives.

Goal

To facilitate the development of green buildings in the Regional District of Nanaimo.

Objectives

The objectives are:

- to maintain and enhance RDN staff and elected official awareness and knowledge about green buildings;
- to improve performance of RDN facilities;
- to develop tools and policies that encourage the adoption of green building practices;
- to build partnerships to advance green building practices in the region;
- to encourage residents to incorporate green building technologies and features into existing and new buildings in the region;
- to encourage the development and construction industry to adopt green building technologies and best practices in renovation and new construction projects in the region;
- to provide research to support green building policies and practices in the region.

Actions

1. Monitor and Develop Related Policies and Programs

- a) The RDN will monitor and conduct periodic update of existing policies and programs, including but not limited to:
 - Green Building Incentive Program;
 - Annual Green Building Series;
 - RDN Green Building Policy;
 - Strategic Energy Management Plan;
 - Energy Policy (Electricity);
 - Green Building Outreach Strategy;
 - Green Bylaw Amendments.

- b) The RDN will continue to update and develop Development Permit Areas to include energy and water conservation considerations.
- c) The RDN will consider developing new policies and programs that aim to improve the performance of existing building stock and encourage new construction built to highest performance standard practicable.
- d) The RDN will develop guidelines for existing facilities. Areas to be considered could include but are not limited to:
 - Continuous building performance optimization;
 - Energy related operation and maintenance procedures;
 - Energy and water use audits;
 - Low-impact exterior maintenance; and
 - Indoor environmental quality management.

2. Build Capacity

- a) The RDN will provide necessary support to a designated green building resource person to serve the organization as well as the community at large.
- b) The RDN will provide necessary information and training to staff on topics including but not limited to:
 - Advanced building technologies, systems, and practices;
 - Relevant codes and standards;
 - Integrated Design Process for capital projects;
 - Green procurement.
- c) The RDN will encourage individuals and businesses in the development and construction industry to gain expertise and experience in green retrofits and constructions.
- d) The RDN will facilitate learning opportunities for building professionals.
- e) The RDN will continue to produce educational materials and tools about green buildings for residents, such as the Green Building Guidebook Series. The purpose of the materials and tools is to provide information and practical assistance to interested residents about:
 - Benefits of green buildings
 - Green building incentives
 - Specific strategies to address issues relevant to local and regional sustainability priorities
 - Local examples and resources
- f) The RDN will actively pursue opportunities to utilize alternative energy sources where practical and support local emerging green industries.

3. Implement Outreach Strategy

- a) The RDN will continue outreach and educational activities about green buildings for residents in a variety of formats, including but not limited to workshops, seminars, community events, open houses, online virtual tours and contests.
- b) The RDN will solicit ideas from the public on local green building priorities to ensure that regional direction meets the needs, desires and expectations of regional residents.
- c) The RDN will design outreach activities targeting specific stakeholders, including but not limited to realtors, developers, builders, homeowners, financial institutions, and building professionals.

4. Conduct Research

- a) The RDN will conduct feasibility studies to identify on-site renewable energy generation opportunities across the region.
- b) The RDN will consider commissioning studies to identify local benefits and barriers of alternative building systems including but not limited to residential greywater reuse, natural building materials, and vegetated roofs.

5. Collaborate with External Organizations

- a) The RDN will participate in complementary programs with utilities, service organizations and other external agencies.
- b) The RDN will utilize and leverage external resources and support where appropriate to promote green buildings.
- c) The RDN will partner with member municipalities and other level of governments to share information, develop tools and policies, and pursue opportunities that facilitate the development of green buildings in the region.

Budget

The RDN Board will consider the allocation of funds to implement selected components of the Action Plan as part of the budget approval process for each year. Selected action items will form part of the annual Green Building Program and corporate Strategic Energy Management Program, and be incorporated into the Energy and Sustainability Division's work plan.

Timeline

The RDN Board will consider approving one or more action items on an annual basis. The Plan shall be reviewed and updated every 3 to 5 years.



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MEMORANDUM

TO: Chris Midgley
 Manager, Energy and Sustainability

DATE: March 9, 2015

FROM: Ting Pan
 Sustainability Coordinator

FILE: 6430-05-GBIP

SUBJECT: 2015 Green Building Incentive Program

PURPOSE

To propose a Green Building Incentive Program for 2015.

BACKGROUND

The Green Building Incentive Program (the Program) has been offered to the residents in the Regional District of Nanaimo (RDN) Electoral Areas and the District of Lantzville since 2011. Table 1 below summarizes how the program budget was distributed since its inception in 2011.

Table 1: 2011-2014 Green Building Incentive Summary

Incentive	Distribution of Incentives			
	2011	2012	2013	2014
Home Energy Assessment	\$2,220	\$7,450	\$8,670	\$1,100
Woodstove Exchange	\$10,750	\$33,750*	\$38,500*	\$15,000
Site-cut Timber		\$95	\$488	\$200
Renewable Energy Systems			\$1,000	\$750
Electric Vehicle Charging Station			\$250	0
Checklist Meeting**		\$150	\$50	0
Checklist Score			\$4,000	\$1,500
Total	\$12,970	\$41,445	\$52,958	\$18,550

*Includes rebates provided through grants from the BC Lung Association in 2012 and 2013

** Discontinued in 2013

The significant drop in 2014 is the result of three main factors:

1. The timing gap between the exhaustion of 2013 funds in October and final budget approval in April 2014;
2. The suspension of the Provincial Woodstove Exchange Program in 2014; and
3. The cancellation of the Provincial LiveSmart BC program.

The period between October 2013 and April 2014 coincides with the heating season when woodstove exchanges are most active. As a result of timing of budget approval and the suspension of provincial funding there was a reduced total number of exchanges last year. However, the uptake in the 2014-2015 heating season indicates that there is still a strong demand.

The 2014 total also reflects the impact of transition from the popular Province-run Live Smart BC program to a new utility-administered Home Energy Rebate Offer (HERO) program since April 2014. The number of home energy assessments dropped considerably compared to the numbers from previous years. It is likely because the new HERO program does not require home energy assessments for homeowners to access incentives. Many service organizations in the industry have also observed that in general the participation rate has gone down noticeably over the last year. The RDN's Home Energy Assessment incentive is designed to work in tandem with external funding agencies by encouraging local residents to take advantage of greater incentives when they are available. It is anticipated that the participation rate in the RDN incentive program will continue to be influenced by external changes and improve when the HERO program is fine-tuned and the new EnerGuide rating system is introduced later this year.

It is noted that the number of inquiries about renewable energy systems and new home construction has increased noticeably in the past year. The revised Board Policy B1.5 "Development Variance Permit, Development Permit with Variance & Floodplain Exemption Application Evaluation" and amendments to Bylaws 500 and 1285 that aim to reduce regulatory barriers to green building features and technologies were adopted by the Board in October 2014 and February 2015 respectively. These recent policy changes will hopefully further encourage the installation of renewable energy systems and the construction of high performance buildings in the region. As the completion of these projects often takes a year or longer, the disbursement of Renewable Energy Systems and Checklist Incentives is more likely to show up in 2015 or 2016.

Proposed 2015 Incentive Program

Firstly, it is proposed that the following incentives remain in place, unchanged from 2014:

Incentive	Amount
Home Energy Assessments	\$150-\$200
Woodstove Exchange	\$250
Site-cut Timber	Up to \$250
Renewable Energy Systems	\$250
Electric Vehicle Charging Station	\$250
Sustainable Development Checklist	\$500-\$1000

Considering new and emerging opportunities, the following expansions and changes are also proposed for 2015:

1. Extend the \$20,000 contribution from the Regional Sustainability Initiatives Reserve Fund to support a Regional Woodstove Exchange Program

At the regular Board Meeting held on June 24, 2014, the following motion was carried:

"That the Board release up to \$20,000 from the Regional Sustainability Initiatives Reserve Fund to support the Regional District of Nanaimo Woodstove Exchange Program in 2014".

Originally, the \$20,000 contribution from the Regional Sustainable Initiatives Reserve Fund was to the Woodstove Exchange Program in 2014. It is proposed that the unused portion of this contribution be available to support this popular program year round, and particularly during the January to March period prior to final approval of the annual budget. Given the strong demand for woodstove exchanges, it is important to allocate sufficient funds to provide continuity and certainty to residents who intend to

upgrade their woodstoves so that the energy and health benefits can be materialized during the heating season. To reflect the regional nature of this funding source, Woodstove Exchange rebates will be made available to residents in Electoral Areas and District of Lantzville as well as those in the City of Nanaimo, Town of Qualicum Beach and the City of Parksville.

2. Collaborate with External Agencies to Promote Oil Furnace Replacement Rebate Program

The Ministry of Energy and Mines is proposing an oil furnace to electric heat pump conversion incentive commencing April 1, 2015. Given that the Nanaimo region has the second highest residential heating oil usage and emissions in BC, a replacement program would greatly encourage residents to upgrade their heating systems to save energy costs and reduce emissions. The Ministry has issued a request for proposal (RFP) seeking a third-party service agency to administer this program. The RDN has submitted letters of support to selected service agencies and will work with them to maximize the benefits to local residents. Additional program details should be available in the coming month.

3. Incorporate ENERGY STAR® standard in Sustainable Development Checklist Incentive

The BC Hydro Power Smart New Home Program adopted ENERGY STAR® for new homes as the program standard, effective January 1, 2015. Aligning the RDN Checklist Incentive criteria with the Power Smart New Home Program could qualify applicants for up to \$1,000 from the RDN and up to \$2,000 from BC Hydro if the new home achieves ENERGY STAR® status. The combined amount offers greater financial incentives to builders and owner builders to pursue higher performance for their projects as ENERGY STAR® qualified new homes are approximately 20 per cent more energy-efficient than a home built to Code. This change is easily incorporated into the Sustainable Development Checklist. The revised Checklist Form is attached in Appendix A.

4. Introduce Clothes Washers Rebate Program in Partnership with BC Hydro

BC Hydro is working with many local governments on an Appliance Rebate Program where each partner contributes equally to the amount of rebates for qualified ENERGY STAR® clothes washers. BC Hydro covers all program administration costs. The individual rebate amount will range from \$100 to \$200 based on the efficiency level of the appliance purchased. The program runs from May 1 to June 30, 2015 and likely again in October. The City of Nanaimo participated last year and will participate again in 2015. The RDN intends to work with the City of Nanaimo to cross-promote the program through the established Team WaterSmart channels. The program administration is expected to be straightforward and require little additional staff resource. Up to \$5,000 will be allocated to this program and allow residents in Electoral Areas and the District of Lantzville to access these rebates. If the rebates are fully utilized, the estimated energy and water savings are 26,800 kWh and 174,800 gallons per year respectively. If the program proves to be successful this year, the Drinking Water Watershed Protection Program will consider funding this initiative region-wide in 2016.

5. \$400 Rebate for Renewable Energy Systems that Require and Obtain a Development Variance Permit

Recent bylaw amendments have made it easier to accommodate renewable energy systems, however some variances from zoning regulations may remain necessary. The recent revision to Board Policy B1.5 signals in-principle Board support for community investment in renewable energy systems that meet on-site energy needs. In keeping with this intent, it is proposed that a \$400 rebate, equal to the dollar value of the Development Variance Permit Application fee, be created for each renewable energy system that requires and obtains the permit. This is in addition to the \$250 Renewable Energy System Incentive the system is eligible for when the project is completed.

If approved, the revised Green Building Incentive Program will become effective April 1, 2015.

ALTERNATIVES

1. That the 2015 Green Building Incentive Program be approved as proposed.
2. That the 2015 Green Building Incentive Program be unchanged from 2014.
3. That alternate direction be given to staff.

FINANCIAL IMPLICATIONS

Under both Alternatives, the Program will be funded with \$20,000 from the Building Inspection service. However, Alternative 1 will allow the extension of the unused portion of the \$20,000 contribution from the Regional Sustainability Initiatives Reserve Fund to support woodstove exchanges beyond 2014, whereas Alternative 2 will restrict the Fund to support woodstove exchanges already requested in 2014.

The RDN in partnership with all member municipalities has once again secured funding from the Ministry of Environment in the amount of \$19,950 for the Regional Woodstove Exchange Program for 2015. Table 2 below summarizes the 2015 funding sources and the incentives they support.

Table 2: Summary of 2015 Funding Sources and Proposed Incentives

Source	Amount	Incentive
Building Inspection	\$20,000	Home Energy Assessment
		Woodstove Exchange
		Site-cut Timber
		Renewable Energy Systems
		Electric Vehicle Charging Station
		Sustainable Development Checklist
		Clothes Washer (\$5,000)
		Oil Furnace Replacement
Regional Sustainability Initiatives Reserve Fund	\$20,000	Region-wide Woodstove Exchange
BC Lung Association	\$19,950	Region-wide Woodstove Exchange

The proposed changes for the 2015 Green Building Incentive Program aims to align the RDN program with external programs to create greater incentives for the residents to participate in energy, water and emission reduction actions without increasing revenue requirements for the program.

Under Alternative 2, all funds may be depleted with the majority supporting woodstove exchanges before the end of 2015. Residents may also miss opportunities to take advantage of external incentives without the concerted effort between the RDN and external agencies.

The Alternatives presented will not change the total amount of funding allocated to the Program. For Alternative 1, the \$20,000 from the Regional Sustainability Initiatives Reserve Fund already approved for Woodstove Exchanges in 2014 will be extended.

STRATEGIC PLAN IMPLICATIONS

In addition to helping residents take action to build a more resilient, self-sufficient Region with cleaner air, water and more efficient use of resources, the Green Building Incentive Program also has a very direct economic benefit for the Region. Each incentive the RDN provides reflects a larger (often much larger) investment made by the recipient. For woodstoves, for example, a \$250 rebate often translates to a direct investment of \$2,500 or more. Similarly, while the RDN covers half the cost of an initial home energy assessment, that assessment could lead to several thousands of dollars in home improvements, generating significant local economic spin-off benefits for businesses and tradespeople. The inclusion of new incentives relating to clothes washers and oil furnaces diversifies the Program further, broadening its potential impact.

To verify the economic benefits of the Program in 2015 and beyond, the value of the investment made by residents will be recorded alongside rebate provided by the RDN. This will highlight the actual dollar value for the economic activities associated with the RDN Green Building Incentive Program, establishing a strong link between the Strategic Priorities of Economic Viability and Monitoring and Communication.

SUMMARY/CONCLUSIONS

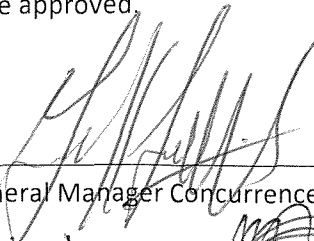
The low participation rate in the Green Building Incentive Program in 2014 was primarily affected by a period in which there was an RDN funding gap and major changes in programs run by external organizations. The expansions and changes proposed for 2015 are intended to provide more stable funding to meet community demands and leverage emerging opportunities. These changes include the extension of \$20,000 from the Regional Sustainability Initiatives Reserve Fund to support woodstove exchanges beyond 2014; the introduction of an oil furnace to heat pump replacement program; the addition of the ENERGY STAR® standard for new homes in the Sustainable Development Checklist Incentive; participation in a BC Hydro Appliance Rebate Program for clothes washers and additional rebates for eligible renewable energy systems that require and obtain Development Variance Permits.

RECOMMENDATION

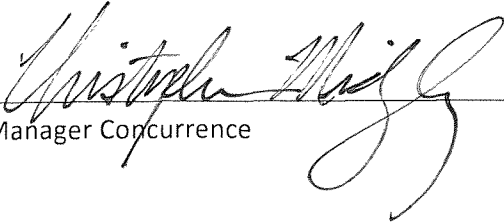
That the proposed 2015 Green Building Incentive Program be approved.



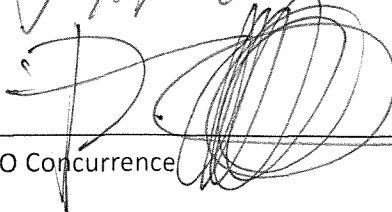
Report Writer



General Manager Concurrence



Manager Concurrence



CAO Concurrence



RDN Sustainable Development Checklist

New Construction and Renovation of Residential Development

File Number: _____

Effective Apr 1st, 2015

First Name: _____

Last Name: _____

Subject Property Address: _____

Telephone: _____

Email: _____

Total Area of Living Space (ft²) _____ Total Number of Bedrooms _____

(Check **Home Size Table** on Page 4 to see the home size number that applies to your project.)

EnerGuide Rating _____

Is the first page of the energy assessment report attached? Yes No

Are bonus points from the Sustainable Development Checklist pursued? Yes No

(Check **Incentive Table** on page 4 to see if you need bonus points to qualify for the Checklist Incentive.)

If so, are the completed Sustainable Development Checklist and supporting documents attached? Yes No Not applicable

EXPIRY DATE: Six months after occupancy or final date on file.

Incentives are limited and will be provided on a first come first served basis until rebate funds run out. If you have any questions about the program, call 250-390-6510 or email sustainability@rdn.bc.ca.

BONUS POINTS (optional): Complete either Option A or Option B below to pursue bonus points.

Option A: Shortcut

Point	Has the project achieved one of the following standards?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
10	LEED* or Built Green Platinum, or ENERGY STAR®	Yes <input type="checkbox"/>	No <input type="checkbox"/>
7	LEED or Built Green Gold	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5	LEED or Built Green Silver	Yes <input type="checkbox"/>	No <input type="checkbox"/>

*Leadership in Energy and Environmental Design

Option B: Step-by-step

Point	Category	Yes <input type="checkbox"/>	No <input type="checkbox"/>												
1	Location Is the project located on lands within the Growth Containment Boundary? OR Does the project involve the reuse of an existing building? OR Is the project located within 3 kilometres (10-minute bike ride) of 5 of the listed destinations? <table border="0" style="margin-left: 20px;"> <tr> <td><input type="checkbox"/> Community/social centre</td> <td><input type="checkbox"/> Recreational facility</td> <td><input type="checkbox"/> School</td> </tr> <tr> <td><input type="checkbox"/> Transit stop</td> <td><input type="checkbox"/> Health care</td> <td><input type="checkbox"/> Coffee shop</td> </tr> <tr> <td><input type="checkbox"/> Financial institution</td> <td><input type="checkbox"/> Shop/market</td> <td><input type="checkbox"/> Restaurant</td> </tr> <tr> <td><input type="checkbox"/> Childcare facility</td> <td><input type="checkbox"/> Park</td> <td></td> </tr> </table> OR Is the project located within 400 metres of a transit stop?	<input type="checkbox"/> Community/social centre	<input type="checkbox"/> Recreational facility	<input type="checkbox"/> School	<input type="checkbox"/> Transit stop	<input type="checkbox"/> Health care	<input type="checkbox"/> Coffee shop	<input type="checkbox"/> Financial institution	<input type="checkbox"/> Shop/market	<input type="checkbox"/> Restaurant	<input type="checkbox"/> Childcare facility	<input type="checkbox"/> Park		Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Community/social centre	<input type="checkbox"/> Recreational facility	<input type="checkbox"/> School													
<input type="checkbox"/> Transit stop	<input type="checkbox"/> Health care	<input type="checkbox"/> Coffee shop													
<input type="checkbox"/> Financial institution	<input type="checkbox"/> Shop/market	<input type="checkbox"/> Restaurant													
<input type="checkbox"/> Childcare facility	<input type="checkbox"/> Park														
3	Renewable Energy Systems Are any of the following systems installed as part of the project by a qualified technician? * Solar hot water Photovoltaic Geoexchange	Yes <input type="checkbox"/>	No <input type="checkbox"/>												
2	Rainwater Management Is rainwater harvested in a cistern with a minimum capacity of 4,546 liters (1,000 gallons) for toilet flushing, irrigation or other uses?*	Yes <input type="checkbox"/>	No <input type="checkbox"/>												

1	Site Are all existing mature trees (the trunk diameter is greater than 20 cm, measured 1.5 m above the ground) on site either retained or replaced with new trees?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	OR Is a rain garden incorporated to encourage natural infiltration of rainwater?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	OR When clearing land, is downed wood or debris left in buffer areas or grinded rather than being burned as 'waste'?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	OR Is less than 20% of the property covered in impervious surface such as roofs and pavements (including building footprint, driveway, patio and footpath)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2	Greywater Reuse Is there any greywater system in place for toilet flushing, irrigation or other non-potable uses?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2	Building Materials Is site-cut timber used for structural components in this project? *	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	OR Are materials with low embodied energy used as structural or envelope components in this project? E.g. clay, straw bale, stone.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2	Vegetated Roof Does the building include a vegetated roof system on 50% of the roof area (not including roof area of a garage or other accessory buildings)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
1	Electric Vehicle Charging Station Is a Level 2 Electric Vehicle Charging Station installed in this project? *	Yes <input type="checkbox"/>	No <input type="checkbox"/>
1	Public Education Does this project provide any green building education opportunities?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

**Total
Bonus
Points**

*Note: Additional incentives may be available for these specific items. Please check www.rdnrebates.ca for eligibility criteria and application details.

RDN Office Use Only

Look up the **Home Size Table**¹ below and circle the size that applies to this project.

Home Size Table												
Maximum home size (ft2) by number of bedrooms	Home Size	Size 0 or smaller	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6	Size 7	Size 8	Size 9	Size 10
≤1 Bedroom		1050	1090	1135	1180	1225	1275	1325	1375	1430	1485	1545
2 Bedrooms		1600	1665	1730	1795	1865	1940	2015	2095	2180	2265	2350
3 Bedrooms		2200	2285	2375	2470	2565	2670	2770	2880	2995	3110	3235
4 Bedrooms		3000	3120	3240	3370	3500	3640	3780	3930	4080	4245	4410
5 Bedrooms		3300	3430	3565	3705	3850	4000	4160	4320	4490	4670	4850

The **Incentive Table** shows the minimum score needed to qualify for the incentive.

Incentive Table											
Incentive	Size 0 or smaller	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6	Size 7	Size 8	Size 9	Size 10
\$1,000	85	86	87	88	89	90	91	92	93	94	95
\$750	82	83	84	85	86	87	88	89	90	91	92
\$500	77	78	79	80	81	82	83	84	85	86	87

Is the application form completed? Yes No

Are supporting documents submitted? Yes No

EnerGuide Rating _____ + Bonus Points _____ = Total Score _____

The applicant is eligible to receive \$ _____

Reviewed and approved by _____ Date _____

¹ Adapted from the Home Size Adjustment Table developed by Canada Green Building Council LEED for Homes program.



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MEMORANDUM

TO: Chris Midgley
Manager, Energy and Sustainability

DATE: March 9, 2015

FROM: Ting Pan
Sustainability Coordinator

FILE: 6430-50-SEMP

SUBJECT: Strategic Energy Management Terms of Reference

PURPOSE

To provide the Terms of Reference for an updated Strategic Energy Management Plan (SEMP).

BACKGROUND

The Regional District of Nanaimo (RDN) completed its first SEMP in 2011, accompanied by an *Energy Policy (Electricity)* which established electricity use reduction targets over the period of 2010 to 2015. In the Energy and Sustainability work plan, a review and update of the SEMP is identified as a project in 2015. The need to revise the existing SEMP relates to its exclusive focus on electricity. The revised SEMP will be expanded to include all energy sources to better identify opportunities for conservation and cost savings, and set new targets that extend beyond 2015.

The Terms of Reference provided as Attachment 1 clarifies the process and necessary activities for initiating, completing and implementing the SEMP. Once endorsed by the Board, these Terms of Reference provide the accountability framework to ensure that milestones are met and deliverables are completed.

ALTERNATIVES

1. That the Strategic Energy Management Terms of Reference be approved as presented.
2. That the Strategic Energy Management Terms of Reference not be approved.
3. That alternate direction be given to staff.

FINANCIAL IMPLICATIONS

The financial implications associated with approving this Terms of Reference relate to the resulting staff time commitments. The estimated time commitment is up to 50% of the Sustainability Coordinator's time, and up to 10% of Energy and Sustainability Manager's time. This is accounted for in the departmental work plan for 2015. In addition, effective development and implementation of the SEMP will require a moderate level of inter departmental support. The Work Plan and Schedule, Section 12 of the Terms of Reference, highlights that up to several hours for each of the key department's manager and staff time will be a necessary contribution to the Plan.

Energy projects that move the RDN toward revised targets will be considered in the annual budget approval process. External funding opportunities from utilities and other sources will be explored where appropriate. Projects will be identified and selected with a strong emphasis on investment that results in reduced operating costs.

STRATEGIC PLAN IMPLICATIONS

The Terms of Reference aims to improve accountability to meeting corporate energy management objectives. Many obstacles to achieving energy reduction targets could be overcome or mitigated by better coordination between departments. The success of strategic energy management will be measured by improving operating and overall lifecycle costs, and lowering carbon emissions while meeting the organization’s operational mandates.

SUMMARY/CONCLUSIONS

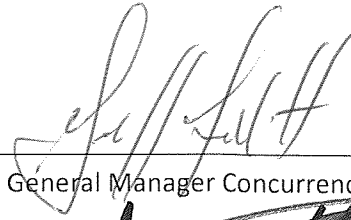
The RDN Strategic Energy Management Plan will be updated in 2015 to identify new opportunities for conservation and cost savings, and set targets that extend beyond 2015. The Terms of Reference establish the process and necessary activities for the successful implementation of a SEMP. Once endorsed by the Board, the Terms of Reference provide the accountability framework to ensure that the SEMP objectives are met.

RECOMMENDATION

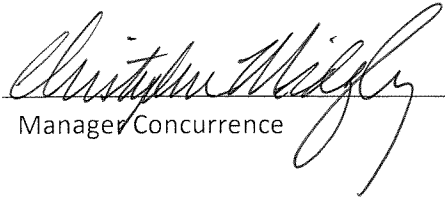
That the Strategic Energy Management Terms of Reference be approved as presented.



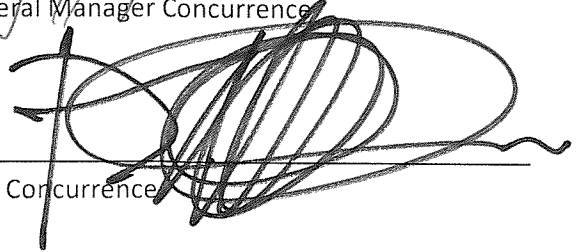
Report Writer



General Manager Concurrence



Manager Concurrence



CAO Concurrence



STRATEGIC ENERGY MANAGEMENT

TERMS OF REFERENCE

March 9, 2015

1. INTENT

The Terms of Reference establish the process and necessary activities for initiating, completing and implementing a Strategic Energy Management Plan (SEMP) for the Regional District of Nanaimo (RDN). Once endorsed by the Board of Directors, these Terms of Reference provide the accountability framework to ensure that milestones are met and deliverables are completed.

2. PURPOSE

The purpose of the SEM is to:

- Provide an overview of energy use at all RDN facilities;
- Identify key performance indicators relating to energy use for the various facilities owned and operated by the RDN;
- Establish revised targets for energy conservation at RDN facilities; and
- Recommend comprehensive, cost-effective measures to achieve energy reduction targets over a 5-year period

As a focused 5-year plan, the SEM will be reviewed and revised every five years. This time frame is subject to change as economic or other relevant conditions change.

3. BACKGROUND

The RDN completed its first Strategic Energy Management Plan in 2011, accompanied by an *Energy Policy (Electricity)* which established energy reduction targets over the 5-year period of 2010 to 2015. Over that same time, various energy upgrades and facility expansion projects have taken place. Even with these projects, the total annual energy consumption for all facilities at the RDN remained very stable. This success is largely due to the commitment to build high-performance facilities with efficient fixtures, systems and equipment. The need to review and revise the existing SEM relates to its exclusive focus on electricity. The revised SEM will be expanded to include all energy sources to better identify opportunities for conservation and cost savings, including new targets that extend beyond 2015.

Energy management is a shared responsibility within the organization. Internal stakeholders across all departments have clear roles and responsibilities with managers responsible for allocating human and financial resources to meet operational requirements; staff providing support to develop and implement policies, plans and programs; and superintendents and operators ensuring daily operations of facilities fulfill required functions. Energy and Sustainability staff bring the strategic component of energy management to the organization and are responsible for overseeing the policy process relating to energy management. These general responsibilities help determine the role each internal stakeholder will play in the organization's overall energy management program, as described later in Section 10 'Internal Stakeholders'.

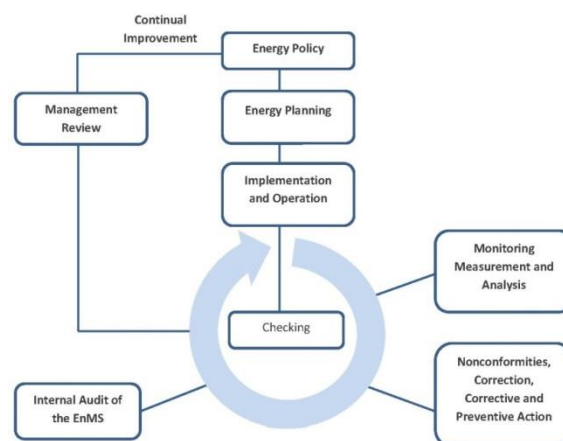
4. POLICY CONTEXT

The SEMP will work in concert with the RDN's *Green Building Policy*, *Energy Policy (Electricity)*, and Carbon Neutral commitment, which together establish organizational direction to conserve energy, lower operational costs, and reduce emissions at all RDN facilities. The RDN's *Green Building Policy* targets new construction and major renovation projects, while *Energy Policy (Electricity)* is concerned with electricity use. The goal of Carbon Neutral Operations is to reduce and offset carbon emissions from corporate operations.

5. METHODOLOGY

Energy management is increasingly recognized as an organizational management process as opposed to simply implementing uncoordinated strategies that result in energy savings. *ISO Standard 50001: Energy Management Systems* was developed to provide management strategies and embed energy management within an organization. This Standard is an ideal resource to help evaluate and improve RDN's current energy management practices following its Plan-Do-Check-Act (PDCA) process. **Figure 1** shows the flow diagram of the components and steps within an Energy Management System that elaborates on this process. By using ISO 50001 as a reference framework, key management issues are identified and strategies to overcome them are formulated.

Figure 1: Energy Management System Model for ISO 50001



6. ISSUES

Internal and external obstacles to achieving energy reduction targets were observed since the completion of the original SEMP. These include the difficulty of accessing utility incentives due to unfavourable eligibility criteria, priorities on meeting operational requirements over energy performance, and limited financial resources to realize energy upgrade projects. These are either driven by external agencies (e.g. access to incentives) or by the organization's operational mandates or availability of resources, and will likely remain.

Key management issues generally relate to properly completing energy planning activities and following through with them. Those identified include an absence of specific actions to achieve targets, a lack of systematic engagement among internal stakeholders, and lack of proper documentation and verification of actions taken.

These issues could be overcome or mitigated by better coordination and management practices. The following actions are proposed:

- Establish a systematic process to identify energy improvement opportunities;
- Create stronger linkages between improvement measures and reduction targets;
- Embed periodic energy reviews into routine organizational practices;
- Improve documentation and control of records; and
- Enhance awareness and communication at all levels within the organization.

7. SCOPE

The scope of the Strategic Energy Management Plan includes all energy-using facilities and processes under the control of the RDN, from both stationary and mobile sources and in all forms of energy including motor fuels, electricity, propane, natural gas, oil or renewables.

8. OBJECTIVES

The objective of the development and implementation of an updated SEMP are:

1. To establish an overall energy reduction targets over the 5-year period from 2016 to 2020 (incl.);
2. To establish quantitative key performance indicators for each significant asset (e.g. pollution control centre), asset class (e.g. pump stations) and/or asset system (e.g. southern community wastewater - pumps stations and pollution control centre);
3. To clarify roles and responsibilities with regard to energy management in consultation with internal stakeholders;
4. To review and update related policies;

5. To develop a process for reporting and monitoring progress;
6. To formalize a means of aligning investment in efficiency with established capital plans; and
7. To develop user engagement strategies where appropriate.

9. APPROACH

The approach to accomplish each objective is described below.

1. Establish overall energy reduction targets
 - Review existing electricity reduction targets and their effectiveness;
 - Survey other similar organizations about their approaches to set up their targets, and learn the advantages and drawbacks of those choices; and
 - Propose new reduction targets appropriate for the RDN.
2. Establish quantitative key performance indicators (KPIs) for each significant asset. Energy and Sustainability (E&S) staff will facilitate a series of meetings with department managers and staff and ask the following questions:

How should energy performance be measured (or what KPIs are appropriate) for the asset they manage?

What benchmark should be used (or who should we compare ourselves to)?

What would be a good energy performance target for them in the next 5 years?

Based on the outcome of the discussions, incorporate KPIs and specific performance targets for each significant asset in the updated SEMP.

3. Clarify roles and responsibilities with regard to energy management in consultation with internal stakeholders. During the meetings with department managers and staff, discuss the following questions:

What do they see their role in managing energy use of their facilities?

How could E&S staff support them?

4. Update related policies
 - Update the existing *Energy Policy (Electricity)* to include all major energy sources and incorporate new overall energy reduction targets; and
 - Review how the *Green Building Policy* has been applied and recommend revisions as necessary.

5. Develop a reporting and monitoring process
 - Determine the need, audience, format and frequency of reporting in consultation with internal stakeholders; and
 - Identify the sources of information, instruments, personnel and scope for ongoing monitoring.
6. Formalize a means of aligning investment in efficiency with established capital plans.
Discuss with the Finance Director and department managers about establishing a registry of energy consuming assets, creating a process to identify and prioritize replacements of inefficient assets and use the information to inform strategic asset management planning.
7. Develop user engagement strategies
 - Identify user engagement opportunities in consultation with internal stakeholders;
 - Conduct a barrier and benefit analysis of any proposed behavior or procedure change; and
 - Prioritize one or a few changes to implement each year.

10. INTERNAL STAKEHOLDERS

The internal stakeholders refer to the Regional District of Nanaimo departments that own and operate a variety of energy consuming assets, more specifically, staff or managers who are primarily responsible for energy or asset management in those departments. **Table 1** below identifies the departments that own or operate the most significant energy consuming facilities.

Table 1: List of Relevant Departments and Positions

Department	Key Position	Assisting Position (as needed)
Energy and Sustainability	Energy and Sustainability Manager Sustainability Coordinator	N/A
Finance	Director	Accountant
Wastewater Services	Wastewater Services Manager	Project Engineer Chief Operator Wastewater Coordinator Special Project Coordinator
Recreation	Recreation Services Manager	Superintendent of Aquatic Services Superintendent of Arena Services
Corporate Services	Administrative Services Manager	N/A
Transit	Transit Operations Manager	Superintendent of Fleet and Custom Operations
Water Services	Water & Utility Services	Engineering Technologist Project Engineer Special Project Coordinator
Solid Waste	Solid Waste Services Manager	Superintendent of Scale and Transfer Services Superintendent of Landfill Operations

The general roles and responsibilities related to ongoing energy management are proposed and described below. These responsibilities will be refined after consultation with each department involved during the development of SEMP in 2015.

Staff in the Energy and Sustainability department take the role of facilitators in Strategic Energy Management Planning. Their responsibilities are:

- Develop and renew energy related policies;
- Track and monitor overall energy use and related costs;
- Provide assistance to major expansion and renovation projects;
- Assist with securing resources and business case development for energy efficiency projects;
- Provide quarterly reports on energy use to the Sustainability Select Committee;
- Conduct analyses of specific energy initiatives as needed;
- Raise awareness within the organization; and
- Initiate periodic reviews with key staff members identified in **Table 1**.

Other departmental staff shall work in collaboration with Energy and Sustainability staff in the following activities:

- Establish Key Performance Indicators (KPIs) and performance targets appropriate for their service areas;
- Plan, develop a business case for, and carry out energy efficiency upgrades or capital projects with energy performance targets;
- Share information and documentation on energy use projection, major upgrades, change of use in facilities, operation procedures or other matters that could have significant implications to overall energy consumption; and
- Propose specific actions, procedures or projects to improve energy performance of facilities while meeting operational requirements.

11. DELIVERABLES

- Key conservation strategies for departments based on existing asset systems and planned capital projects.
- A revised energy policy for the organization.
- Periodic energy performance reports at facility, departmental, divisional and organizational levels as determined necessary in consultation with internal stakeholders.
- A complete Strategic Energy Management Plan to guide decision making on investment on efficiency.

12. WORK PLAN AND SCHEDULE

The following tasks and timelines have been identified for the completion and implementation of an updated SEMP.

Time	Tasks	Resources
2015 Q1	<ul style="list-style-type: none"> Organize energy data and conduct high-level analysis to identify trends and patterns at the organizational level as well as for major energy consuming assets Quarterly report to Sustainability Select Committee (SSC) Seek the Board's endorsement for the Strategic Energy Management Terms of Reference 	20% Sustainability Coordinator's time; 10% E&S Manager's time
Q2	<ul style="list-style-type: none"> Review similar organizations' SEMP's and relevant resources Schedule consultation meetings with internal stakeholders Review existing policies and propose revisions if necessary Quarterly report to SSC Annual report to Corporate Planning Committee 	50% Sustainability Coordinator's time; 10% E&S Manager's time; 2-hour meeting time with each key department's manager and staff
Q3	<ul style="list-style-type: none"> Establish KPI, benchmarks and performance targets Develop user engagement strategies Continue consultation with internal stakeholders Propose revised policies Quarterly report to SSC 	50% Sustainability Coordinator's time; 10% E&S Manager's time; Key department's staff time as needed
Q4	<ul style="list-style-type: none"> Complete an updated SEMP and gain support from internal stakeholders and SSC Adopt new policies Implement SEMP, starting with strategic planning meetings with key department staff to plan for future conservation strategies Quarterly report to SSC 	50% Sustainability Coordinator's time; 10% E&S Manager's time; 2-hour meeting time with each key department's manager and staff
2016 Q1	<ul style="list-style-type: none"> Review 2015 Energy Performance Conduct review meetings with key department staff, identifying successes and gaps in the previous year and proposing improvements Annual report to top management 	50% Sustainability Coordinator's time; 10% E&S Manager's time
Q2	<ul style="list-style-type: none"> Provide monitoring, analysis, or research in support of departments' efforts to improve energy performance as needed Quarterly report to SSC 	20-50% Sustainability Coordinator's time depending on the need; E&S Manager's time as needed
Q3	<ul style="list-style-type: none"> Provide monitoring, analysis, or research in support of departments' efforts to improve energy performance as needed Quarterly report to SSC 	20-50% Sustainability Coordinator's time depending on the organizational need; E&S Manager's time as needed
Q4	<ul style="list-style-type: none"> Conduct strategic planning meetings with key department staff and identify energy related projects for the next budgeting cycle Quarterly report to SSC 	50% Sustainability Coordinator's time; 10% E&S Manager's time; 2-hour meeting time with each key department's manager and staff

Appendix 1: SAMPLE 'STRATEGIC ENERGY MANAGEMENT PLAN' STRUCTURE

1. Background
 - a. How is the plan initiated?
 - b. What department, organization, committee is responsible for the plan?
 - c. What policies are in place in support of SEMP?
2. Purpose
 - a. Summarize the purpose of the plan.
 - b. Establish the need for a Strategic Energy Management Plan for the organization: what opportunities, challenges, issues, special situations currently exist which make it important that a plan be carried out at this time?
3. Goals and Targets
 - a. Set an overall long-term goal, i.e. reduction of energy use, intensity, or percentage every year or over a period of time.
 - b. Establish performance targets for top consumers.
 - c. Consider the impact of major expansions or dispositions.
4. Organizational Profile
 - a. Who is the champion that will be responsible for the plan?
 - b. Who are the decision makers?
 - c. Who are the stakeholders?
 - d. What are their roles and responsibilities respectively?
 - e. What is the reporting and communication structure among them?
5. Energy Use Profile
 - a. What sources of energy, i.e. electricity, natural gas, propane, diesel or gasoline, were used and in what proportion both in cost and consumption?
 - b. What contribute to the energy use from each source?
6. Stationary Sources
 - a. What buildings and facilities are within the scope and which ones are the top consumers?
 - b. What service areas do they belong to?
 - c. What are the key performance indicators for top consuming facilities?
7. Mobile Sources
 - a. What vehicles are within the scope, such as company fleet vehicles, buses, and snowplows?
 - b. What service areas do they belong to?
 - c. What are the key performance indicators for them?

8. Energy Management

- a. Data management and reporting: How is the energy data gathered? Who have access? How is the data reported to stakeholders?
- b. Supply management: What opportunities exist for purchase optimization? What is the role of alternative energy technologies, such as combined heat and power, district energy and renewable energy systems?
- c. Energy use management: How is energy use monitored? What are the key conservation strategies for each top consumer? How to implement them? What are the priority projects in the next 3 to 5 years? What are the major capital projects that will have a significant impact on energy use, and what opportunities do they bring?

9. Resources

- a. What are the capital needs?
- b. What are the potential funding sources and their availability?

10. Asset Management

- a. Establish an asset registry of energy consuming assets.
- b. Prioritize infrastructure investment and target inefficient assets, i.e. equipment and vehicles, for replacement.

Schedule A: List of Projects