

**Regional Emission Reductions for Carbon Neutral Operations**

**Memorandum of Agreement**

THIS AGREEMENT made the 19 day of SEPTEMBER, 2012,

BETWEEN:

**REGIONAL DISTRICT OF NANAIMO**

a corporation incorporated under the *Local Government Act*  
6300 Hammond Bay Road  
Nanaimo, BC V9T 6N2

(the "RDN")

AND:

**CITY OF NANAIMO**

a municipal corporation incorporated under the *Local Government Act*  
455 Wallace Street  
Nanaimo, BC V9R 5J6

("Nanaimo")

AND:

**DISTRICT MUNICIPALITY OF LANTZVILLE**

a municipal corporation incorporated under the *Local Government Act*  
7192 Lantzville Road, P.O. Box 100  
Lantzville, BC V0R 2H0

("Lantzville")

AND:

**CITY OF PARKSVILLE**

a municipal corporation incorporated under the *Local Government Act*  
100 E. Jensen Avenue, P.O. Box 1390  
Parksville, BC V9P 2H3

("Parksville")

AND:

**TOWN OF QUALICUM BEACH**

a municipal corporation incorporated under the *Local Government Act*  
201 - 660 Primrose Street, P.O. Box 130  
Qualicum Beach, BC V9K 1S7

("Qualicum Beach")

(Jointly known as "the Parties"; and in reference to municipal corporations only [exclusive of the RDN], jointly known as "the Member Municipalities".)

**WHEREAS:**

- A. The RDN under the *Local Government Act*, and the Member Municipalities under the *Community Charter*, each have the power to make agreements with other public authorities respecting the undertaking, provision and operation of activities, works and services; and
- B. The RDN under the *Local Government Act*, and the Member Municipalities under the *Community Charter*, each include among their purpose fostering the economic, social and environmental well-being of their respective communities; and
- C. Each of the Parties are signatories to the Climate Action Charter; and
- D. Article 5(a)(i) of the Climate Action Charter states that in order to contribute to reducing Greenhouse Gas (GHG) emissions, signatory Local Governments agree to develop strategies and take actions to achieve being carbon neutral in respect of their operations by 2012; and
- E. Achieving Carbon Neutral Operations will require investment in projects that result in quantifiable, credible and verifiable reductions in GHG emissions.
- F. The Parties now wish to collaborate in a manner to ensure that investment in emission reduction projects fosters the economic, social and environmental well-being of the communities and jurisdictions that comprise the region, and in a manner that falls within their authorities under the *Community Charter* and *Local Government Act*.

**NOW THIS AGREEMENT WITNESSES** that in consideration of their mutual aspirations and obligations, the Parties agree with the others as follows:

**PART 1: DEFINITIONS**

- (a) **Additional:** The concept that a project's emission reductions and/or removal enhancements must go beyond what would have occurred in the absence of the project. Generally, projects are deemed to be additional when the incentive of having a greenhouse gas reduction recognized as an emission offset or reduction credit overcomes or partially overcomes financial, technological or other obstacles to carrying out the project.
- (b) **Carbon Dioxide Equivalent (CO<sub>2</sub>e):** A universal unit of measurement for greenhouse gas emissions based on the relative climate impact, or global warming potential, of six classes of greenhouse gases: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF<sub>6</sub>). Carbon dioxide equivalent is usually measured in tonnes, but any unit of mass can be used.
- (c) **Carbon Neutral Operations:** An outcome of an organization's management of energy use and emissions such that there is no net increase in carbon dioxide equivalent entering the atmosphere as a result of an organizations normal activities.
- (d) **Corporate Emission Inventory:** For this agreement, the total quantity of emissions, measured in tonnes of CO<sub>2</sub>e produced by a local government as a result of the energy used in the delivery of its services.
- (e) **Corporate Energy Use:** The total energy consumed in the delivery of local government services, including fossil fuels and electricity.

- (f) **Credible:** With respect to an offset or emission reduction, credible means supported by calculations and compliant with procedures or policies that include a description of quality assurance and quality control, record keeping and data management.
- (g) **Emissions:** Substances released into the atmosphere. Emissions occur through natural processes and as a result of human activities. For this agreement, emissions refer specifically to greenhouse gas emissions, as defined below.
- (h) **Emission Factor:** The total quantity of greenhouse gases emitted per unit of energy consumed, as measured in units of CO<sub>2</sub>e.
- (i) **Emission Reduction Project:** A project that results in a real, additional, credible and quantifiable reduction in greenhouse gas emissions, or removal of atmospheric greenhouse gases.
- (j) **Greenhouse Gases (GHGs):** The atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O). Less prevalent but very powerful greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>).
- (k) **Global Warming Potential:** The relative measure of how much heat a greenhouse gas traps in the **atmosphere**. Global warming potential is calculated over a specific time interval, commonly 100 years, and is expressed in relation to carbon dioxide, which has a global warming potential of one.
- (l) **Lead Party:** The jurisdiction within the Regional District of Nanaimo selected to research, develop, **implement** and coordinate a regional emission reduction project.
- (m) **Local:** For the purpose of this agreement, local means within boundaries of the Regional District of **Nanaimo**, including member municipalities.
- (n) **Local Government Operations:** All activities undertaken by an incorporated local government, whether a municipality or regional district, in the delivery of the services it provides.
- (o) **Management Committee:** For the purpose of this agreement, the Management Committee is comprised of the Chief Administrative Officers of the Regional District of Nanaimo, the District Municipality of Lantzville, the City of Parksville and the Town of Qualicum Beach, and the Deputy City Manager of the City of Nanaimo, or their appropriately designated alternate.
- (p) **Offset :** A carbon offset is a financial instrument that represents a reduction or removal of one tonne of **greenhouse** gas emissions. The offset acts as an investment in a reduction or removal project that could not occur without the financial contribution in the form of the offset.
- (q) **Offset Cost:** The dollar value of a carbon offset, as paid per tonne of GHG emission reductions or removals.
- (r) **Pacific Carbon Trust:** The Provincial Crown corporation established in 2008 to deliver BC-based greenhouse gas offsets, to help clients meet their carbon reduction goals and to support the growth of BC's low-carbon economy.

- (s) **Protocol:** The established, recognized and generally accepted set of methods and procedures for determining the total quantity of offsets or reduction credits associated with an emission reduction project.
- (t) **Quantifiable:** With respect to an offset or emission reduction, quantifiable means capable of being measured in units of CO<sub>2</sub>e according to generally accepted methods or protocols.
- (u) **Regional:** For the purpose of this agreement, regional means within boundaries of the Regional District of Nanaimo, including member municipalities. Same as 'local', above.
- (v) **Regional Local Government Emission Inventory:** The aggregated emission inventory made up of the individual corporate emission inventories for each of the local governments that comprise the Regional District of Nanaimo.
- (w) **Regional Emission Reduction Project:** An emission reduction project that occurs within the boundaries of the Regional District of Nanaimo, including the member municipalities.
- (x) **Reduction Credit:** A verified, non-salable credit representing one tonne of CO<sub>2</sub>e that results from projects undertaken for the purpose of reducing a corporate or regional local government inventory.
- (y) **Reserve Fund:** A statutory fund created by bylaw by a municipal council or a regional board to set aside funds for a specified purpose.
- (z) **Verifiable:** The ability to check or test, by an independent and certified party, to ensure that an emission reduction project actually achieves emission reductions commensurate with the credits or offsets it receives.

## **PART 2: AGREEMENT**

### **Rationale**

- 2.1 Emission reduction projects that foster the economic, social and environmental well-being of the communities and jurisdictions that comprise the region are those that retain local tax dollars within the region; provide direct, tangible benefits to residents of the region; and result in credible, quantifiable reductions in GHG emissions.
- 2.2 For each party acting individually, the ability to undertake emission reduction projects of a sufficient scale to achieve carbon neutrality within its own boundaries may be limited by:
  - (a) A lack of available opportunities due to the constraints of attempting to operate within a specific geographic area; and
  - (b) An insufficient corporate emission inventory to implement an economically viable emission reduction project, as measured by cost per tonne of emissions.
- 2.3 By acting together, the ability to undertake emission reduction projects of a sufficient scale to achieve carbon neutrality within the region may be enabled by:
  - (a) Increased opportunities for a wide range of potential project types available across a larger, diverse geographic area; and

- (b) Enhanced financial viability of projects resulting from a larger, aggregated regional corporate emission inventory, allowing fixed project costs to be distributed over a greater quantity of emissions to be reduced.

## Purpose

- 2.3 For these reasons, the Parties have established this agreement for the following purposes:
- (a) to formalize a collaborative, region-wide approach to developing, investing in, and implementing regional emission reduction projects for the purpose of achieving carbon neutrality with respect to local government operations;
  - (b) to establish a process for consolidating the emissions measured individually by each of the Parties into a single, regional local government emission inventory in order to determine the quantity of emissions, as measured in tonnes of carbon dioxide equivalent (CO<sub>2</sub>e), to be reduced on an annual basis; and
  - (c) to create the financial mechanism(s) necessary to enable each of the Parties to contribute a dollar amount equal to their individual corporate emission inventory multiplied by an agreed upon price per tonne of CO<sub>2</sub>e for investing in regional emission reduction projects.
- 2.4 Nothing in this agreement obliges any or all Parties to participate in a particular regional emissions reduction project, or prevents any or all Parties from opting out of a particular regional emission reduction project.

## PART 3 NATURE OF OBLIGATIONS

### Maintain a Corporate Emission Inventory

- 3.1 Each Party agrees to track and record corporate energy use associated with the delivery of local government services. The reporting requirements for energy consumption necessary to access the Provincial Climate Action Revenue Incentive Program (CARIP) provide the minimum necessary information for fossil fuel use. Corporate electricity consumption must also be tracked and recorded. Energy use will be tracked in the following units:

Electricity	kwh
Natural Gas	GJ or m3
Gasoline	litres
Diesel	litres
Propane	litres
Heating Oil	litres

Any other fuel sources consumed in the delivery of local government services as indicated on the CARIP reporting template.

- 3.2 Total energy consumption for different energy sources will be converted to tonnes of carbon dioxide equivalent (t CO<sub>2</sub>e) in a manner consistent with accepted methodologies, and using accepted emission factors. The ***Draft Methodology for Reporting B.C. Local Government Greenhouse Gas Emissions*** produced by the BC Ministry of Environment dated August, 2011 or later, and as updated from time to time includes emission factors for each of the above-noted fuels, and provides an accepted methodology for calculating corporate emission inventories.

- (a) Emission factors for a variety of common energy sources, as listed in the ***Draft Methodology for Reporting B.C. Local Government Greenhouse Gas Emissions*** are attached as Schedule 1 to this agreement.
- 3.3 Unless the Parties agree otherwise, it will be the responsibility of staff at the RDN to aggregate the energy use data or corporate emission inventories provided by the Parties into one regional local government emission inventory.
- 3.4 The Parties agree to provide consumption data for electricity and fossil fuels to the RDN for the purpose of aggregation twice yearly, as near as reasonably possible to June 30; and as near as reasonably possible to December 31.
- 3.5 Paragraph 3.4 is intended to distribute the work load required to develop a regional local government emission inventory over the course of a year. If meeting this provision is not possible for one or more of the Parties, it is imperative that annual consumption data or an annual corporate emission inventory be shared as soon after December 31 as is reasonably possible.
- 3.6 If a Party fails to, or chooses not to provide energy consumption data or a corporate emission inventory for a given year by the following March 1, that Party will be deemed to have withdrawn from this agreement and is pursuing carbon neutral operations on its own.

#### **Sharing of Emission Quantification Tools**

- 3.7 The Parties agree to share with each other any tools (spreadsheets, software, other) developed or purchased for the purpose of quantifying or inventorying corporate emissions.
- 3.8 When the sharing of quantification tools is not possible because of copyright, contractual or other reasons, the Parties agree to disclose the name of the tool in use, as well as general details regarding the financial and staff resource implications associated with the use of the tool.
- 3.9 If a tool for calculating emissions becomes available that meets the needs of local governments in British Columbia, and that facilitates the implementation of this collaborative agreement, the Parties agree to consider investing in that tool.
- 3.10 The Parties agree to pursue discussions with the Province to determine whether the SMARTTool, developed by the Province of British Columbia, can meet the collective need outlined in this agreement.

#### **Establish a Reserve Fund for the Purpose of Investing in Regional Emission Reduction Projects**

- 3.11 Insofar as they lawfully can, the Parties agree to use their respective authorities to establish a statutory reserve fund by bylaw, for the purpose of investing in regional emission reduction projects.
- 3.12 The purpose of the Reserve Funds referred to in paragraph 3.11 is that each Party would transfer into its reserve fund a dollar amount that equals the total quantity of local government emissions generated in a calendar year as measured in tonnes of CO<sub>2</sub>e multiplied by an agreed upon dollar value per tonne.
- 3.13 For emissions generated in the year 2012, the dollar value per tonne will be \$25.00.

- 3.14 The Parties agree to reassess this dollar value per tonne annually at a time that coincides with annual budget preparations.
- 3.15 If the parties are unable to agree on a dollar value per tonne of CO<sub>2</sub>e after thirty (30) days, then the dollar value per tonne will be deemed to be the dollar value per tonnes for carbon offsets sold through the Pacific Carbon Trust.
- 3.16 If a Party fails to or chooses not to set aside funds for the purpose of investing in regional emission reduction projects by the end of each fiscal year, that Party will be deemed to have withdrawn from this agreement.

### **Identify and Share Potential Regional Emission Reduction Project Ideas**

- 3.17 All parties are encouraged to identify potential regional emission reduction projects.
- 3.18 All Parties are encouraged to solicit regional emission reduction project ideas from their constituents, including members of the public, non-government organizations and the local business community.
- 3.19 Any Party may, of its own accord, undertake research or engage qualified consultants to identify potential emission reduction projects.
- 3.20 Any Party undertaking such work agrees to share Requests for Proposals, Requests for Qualifications, the results of such work, and any other related files with the other Parties.
- 3.21 Regional emission reduction projects must adhere to accepted emission reduction or offset protocols and/ or methodologies.
  - (a) If a regional emission reduction project appears to have merit, but a formal protocol is absent, the Parties may develop a project protocol or methodology. Should this work be undertaken, the Parties agree to collaborate with the Green Communities Committee (GCC) to ensure that any protocol or methodology developed provides a benefit to other local governments in British Columbia
- 3.22 The costs of such work will be borne entirely by the Party undertaking the work until the project has the support of the remaining Parties.
- 3.23 Once a potential regional emission reduction project idea is identified, the Parties will develop that project in accordance with Part 4: Process

## **PART 4: PROCESS**

### **Management Committee**

- 4.1 The project proponent will present the regional emission reduction project idea at the next available Management Committee meeting.
- 4.2 The Management Committee will determine by consensus:
  - (a) whether the project offers sufficient regional benefit, and otherwise appears to merit further investigation;

- (b) whether project implementation is consistent with existing statutes, including local government authorities as described in the *Community Charter, Local Government Act*, or other *Act* or regulation; and
- (c) which of the Parties has the resources, including available staff and budget to be the Lead Party to lead preliminary project development in a timely way.
- (d) In the absence of agreement of all Parties to pursue a proposed project, nothing in this agreement prevents one or more of the Parties from using any funds set aside under this agreement for the purpose of such projects.

### **Preliminary Project Development**

- 4.3 The Lead Party will allocate the staff time and other resources necessary to determine, at a minimum:
- (a) a preliminary estimate for the total project cost;
  - (b) a preliminary estimate for the total quantity of emissions reduced as a result of the project; and
  - (c) requirements for third-party involvement for detailed project development and implementation and verification.
- 4.4 Costs associated with preliminary project development must be borne entirely by the Lead Party.

### **RDN Sustainability Select Committee**

- 4.5 As a Select Committee of the RDN Board of Directors, the Sustainability Select Committee includes representatives from each of the parties to this agreement. A preliminary project report including the information outlined in paragraphs 4.3 (a)-(c) will be prepared by the Lead Party and presented to the RDN Sustainability Select Committee. The Sustainability Select Committee will:
- (a) recommend to the RDN Board that the project proceed as outlined by the Lead Party;
  - (b) recommend to the RDN Board that the project proceed, but with suggested changes or revisions;
  - (c) make some other recommendation.

### **RDN Board of Directors**

- 4.6 Nothing in this agreement is intended to fetter the discretion of the RDN Board of Directors to provide final approval to proceed with a project, including the release of reserve funds for detailed project development and implementation.

### **Project Implementation**

- 4.7 Once a project is approved by the RDN Board of Directors:



- (a) the Lead Party will proceed immediately with project development and implementation of the project; and
- (b) all other Parties must pay to the Lead Party within 30 days of RDN Board approval an amount equal to that Party's share of the total estimated project cost as presented to the Board.

### **Project Cost Sharing**

- 4.8 Unless agreed otherwise, financial contributions toward project development will be provided by all Parties based on the ratio between an individual Party's corporate emission inventory, and the total regional local government emission inventory.
- 4.9 For 2012, an estimate for the regional local government inventory will be determined by summing the individual emission inventories of each Party, as publicly reported in each Party's Climate Action Revenue Incentive (CARIP) Public Report for 2011, or as provided by each Party. This inventory is attached as Schedule 2 to this agreement.
- 4.10 Total project costs for any one year must not exceed the total annual cost for achieving Carbon Neutral Operations as described in Sections 3.12 and 3.13.
- 4.11 The Lead Party will make all reasonable efforts to ensure that approved projects are sufficiently complete to enable the inclusion of reductions in annual public progress reporting toward carbon neutral operations as required by the Province of British Columbia.

## **PART 5: REPORTING**

### **Reporting to the Public**

- 5.1 Upon project completion, the Lead Party will provide formal public reporting of results from Regional Emission Reduction Projects to the RDN Board of Directors and Municipal Councils.

### **CARIP Reporting Template**

- 5.2 Each Party will report their share of reductions resulting from Regional Emission Reduction Projects in the CARIP Reporting Template as provided by the Province, and in accordance with Provincial reporting deadlines.

## **PART 6: AMENDMENT, TERM, AND WITHDRAWAL**

### **Amendment**

- 6.1 At the outset of each year of the term of this agreement, all parties will be provided with an opportunity to suggest amendments to this agreement.
- 6.2 At the outset of each year of the term of this agreement, the Parties will review, update and amend as necessary:
  - (a) the dollar value per tonne of CO<sub>2</sub>e;
  - (b) the emission factors for the energy sources that contribute to each Party's corporate emission inventory; and

- (c) the Regional Local Government Emission Inventory, as the cumulative sum of the individual corporate emission inventories for each of the Parties.

### **Term**

- 6.3 This agreement will continue until the earlier of:
- (a) the date when any and all commitments or obligations for the Parties to achieve carbon neutral operations are either satisfied or cease;
  - (b) the date when all Parties have withdrawn from this agreement in accordance with Section 5.5 Withdrawal, below; or
  - (c) five years from the date of the making of this agreement, at which point all Parties will have the opportunity to extend this agreement.

### **Withdrawal**

- 6.4 A party may withdraw from this agreement, if deemed in its best interest, subject to the following conditions:
- (a) that Party has not already committed to lead a preliminary project development or detailed project development, implementation and verification process;
  - (b) that Party agrees that funds already disbursed or released for the purpose of project development and or implementation cannot be reimbursed.
- 6.5 A Party will be deemed to have withdrawn from this agreement if the obligations under this agreement are not fulfilled.

## **PART 7: PURCHASE OF CARBON OFFSETS**

- 7.1 If Regional Emission Reduction Projects do not yield reductions equal to or in excess of the Regional Local Government Inventory for a given year, each party may either:
- (a) purchase carbon offsets from a seller of their choice to make up the shortfall; or
  - (b) acknowledge that carbon neutrality will not be achieved for that year, and report on the progress that has been made toward carbon neutrality as a result of reductions from participation Regional Emission Reduction Projects.
- 7.2 Nothing in this agreement prevents any of the Parties from opting to use reserve funds to purchase carbon offsets instead of participating in Regional Emission Reduction Projects.
- 7.3 Opting to purchase carbon offsets over participation in Regional Emission Reduction Projects to achieve carbon neutral operations does not constitute withdrawal from this agreement.
- 7.4 The intent to purchase carbon offsets over participation in Regional Emission Reduction Projects must be made known to all Parties prior to RDN Board approval to implement the Regional Emission Reduction project(s).

IN WITNESS WHEREOF the parties hereto executed this Agreement as of the day month and year first above written.

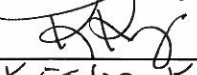
REGIONAL DISTRICT OF NANAIMO by its authorized signatories: )

Name:  )  
Joe Stanhope, Chairperson )

Name:  )  
Matt O'Halloran, Legislative Coordinator )

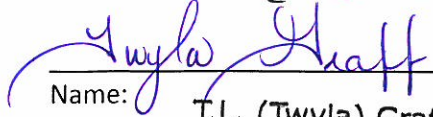
City of Nanaimo by its authorized signatories: )

Name:  )  
John Ruttan, Mayor )

Name:  )  
Kristin King )  
Corporate Officer )

District Municipality of Lantzville by its authorized signatories: )

Name:  )

Name:  )  
T.L. (Twyla) Graff )  
Chief Administrative Officer )  
Director of Corporate Administration )  
District of Lantzville )

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**Schedule 1:**  
**Emission Factors for Common Energy Sources (2012)**

<u>Energy Source</u>	<u>Unit of Measure</u>	<u>CO<sub>2</sub>e per unit</u>
Electricity	kwh	22-25 grams per kwh
Natural Gas	GJ	51 kg per GJ
Gasoline	litres	2.41 kg per litre
Diesel	litres	2.69 kg per litre
Propane	litres	1.54 kg per litre
Heating Oil	litres	2.84 kg per litre

## Schedule 2:

Draft Regional Local Government Inventory  
(From Corporate Emission Inventories Completed between 2005-2007, or Local Government Climate  
Action Revenue Incentive Program (CARIP) Report)

**Note:** Schedule 2 is to be revised annually. Any Party may request an amendment to Schedule 2 upon completion of a corporate emission inventory, with supporting consumption data or a CARIP report.

<b>Local Government</b>	<b>Corporate Emission Inventory</b>	<b>Percent of Regional Inventory</b>
City of Nanaimo	6,360	69.9%
District Municipality of Lantzville	43	0.5%
City of Parksville	432	4.8%
Town of Qualicum Beach	443	4.9%
Regional District of Nanaimo	1,805	19.9%
Total	9,083	100.0%