

Verification Report
April 2009

Vancity Group

Verification of the 2008 GHG
Emissions Inventory and Offsets

INTERPRAXIS

InterPraxis Consulting
625 Queen Street East, Suite 503
Toronto, ON, M4M 1G7
T: 416-465-1972
www.interpraxis.com

Date of first issue: April 13, 2009	Project No.:
Approved by: DJS	Organisational unit: GHG Climate Change
Client: Vancity Group	Client contact: Kate Dunford

Summary:

The purpose of this report is to present the findings from our independent verification of the Vancity Group's greenhouse gas (GHG) emissions data, systems and assertions as presented in its 2008 Carbon Footprint Report and 2008 Carbon Neutral Report - in accordance with ISO 14064-3 and the requirements of the Canadian Standard's Association's GHG CleanStart Registry Program.

Report No.: VC - 155	Subject Group:	
Report title: Verification Report: Vancity Group		
Work verified by: David Simpson (Lead) Dara Edmonds		
Date of this revision:	Rev. No.:	Number of pages:

Indexing terms

--

- No distribution without permission from the Client or responsible organisational unit
- Limited distribution
- Unrestricted distribution

Abbreviations

CRA – Canada Revenue Agency

CSA – Canadian Standards Association

DCO – Data Collection Officer

EDF – Environmental Defence Fund

DEFRA – UK Department for Environment, Food and Rural Affairs

GHG – Green House Gas

IRCA – International Register of Certificated Auditors

ISO – International Organization for Standardization

MO – Managing Officer

NRCan – Natural Resources Canada

Conversion Factors

All conversion factors used are described in the body of the report.

<i>Table of Contents</i>	<i>Page</i>
1.0 Introduction	3
1.1 Objective	3
1.2 Responsibilities	3
1.3 Scope	3
1.4 Limitation of Scope	4
1.5 Approach	4
1.6 Verification Team	5
2.0 Description of Entity's Carbon Footprint	6
2.1 Summary of Quantification Methods	6
2.2 Review of Documentation	8
2.3 Site Visits	8
2.4 Assessment	8
2.5 Report of Findings	9
3.0 Verification Findings	10
3.1 GHG Inventory Design and Development	10
3.2 Effectiveness of Controls and Monitoring	10
3.3 Accuracy of Emissions Calculations	11
3.4 Quality of Evidence to Determine Emissions	12
3.5 Management Letter: Observations and Recommendations	12
4.0 GHG Management Scorecard	13
5.0 Verification Statement	14

Verification of the 2008 GHG Emissions Inventory and Offsets

1.0 Introduction

InterPraxis has been commissioned by Vancity to verify the data and assertions presented in its greenhouse gas (GHG) emissions inventory report and review the carbon offsets for the year ended December 31st, 2008.

1.1 Objective

Vancity has contracted InterPraxis to conduct an independent verification of its greenhouse gas (GHG) emissions data, systems and assertions as presented in its 2008 Carbon Footprint Report and 2008 Carbon Neutral Report in accordance with ISO 14064-3 and the requirements of the Canadian Standard's Association's GHG CleanStart Registry Program.

1.2 Responsibilities

The Carbon Footprint Report and Carbon Neutral Report (together hereafter referred to as the 'Report') is prepared solely by Vancity, which is responsible for its entire content. This verification report is the sole responsibility of InterPraxis. The aim of the Report is to permit the Vancity Group to report on its GHG emissions, removals, directed actions and purchased carbon offsets. The objective of the assurance assignment is to perform sufficient work to provide a reasonable level of assurance as to whether the Report, in all material respects, gives a fair representation of GHG data and information, and has been prepared in accordance with ISO 14064-1.

1.3 Scope

This assurance engagement deals with the year ending December 31st, 2008. Our assurance work covers the entire Vancity Group, which includes Vancity Credit Union, Citizens Bank of Canada, Vancity Enterprises Ltd., Vancity Community Foundation, Vancity Capital, Vancity Insurance Services Ltd., Vancity Investment Management Ltd., Inventure Solutions Inc., Inhance Management Inc. and Squamish Savings. Data was collected from 76 sites and included CO₂ emissions data from the following sources:

- **Energy** – electricity and natural gas (scope 1 and 2)
- **Transportation** – vehicle fleet, business travel, business air travel and employee commuting (scope 1 and 2)
- **Office activity** – paper usage (scope 3)

In addition, InterPraxis verified that the generated emissions were balanced by the purchase of CO₂ offsets that were explicitly generated from energy efficiency and renewable energy projects.

1.4 Limitations of Scope

The following represent limitations in the scope of our work that could affect our conclusions:

- 1) Our work did not include the verification of financial data upon which some GHG related data is derived. In these cases we have relied on the work of the financial auditors.
- 2) We have reviewed Vancity's reported activities and directed actions to reduce GHG emissions (contained on pages 16-19 of the Carbon Footprint Report) for reasonableness but these assertions and claims are out of scope of the engagement and are otherwise unaudited.
- 3) Our work is limited to those areas covering the GHG emissions sources that Vancity management has selected to quantify.

1.5 Approach

We have performed our work in accordance with ISO 14064-3 and the requirements of the Canadian Standard's Association's GHG CleanStart Registry Program.

Our approach is risk-based, drawing on the risks associated with reporting GHG emissions and the controls in place to mitigate these.

This approach aligns the assurance process to the reporting organization's definition of scope and assurance engagement, which in this case, focuses on GHG emissions and carbon offset data.

We planned and performed our work in order to obtain the necessary information and explanations that would amount to sufficient evidence to enable us to provide reasonable assurance on the GHG data and information that we reviewed. Our procedures included obtaining, examining and evaluating evidence supporting the collection, consolidation and reporting of the selected performance indicators. Our examination includes assessment, on a test basis, of collected data on GHG emissions during the audit period. Evidence consisted of:

- Conducting enquiries of relevant Vancity management and staff;
- Obtaining an understanding of the management systems, processes and controls used to generate, aggregate and report the data;
- Reviewing recognized emission factor protocols;

- Reconciling data to accounting and other Vancity records;
- Reviewing receipts and records for carbon offset purchases; and
- Testing and recalculation of quantitative data.

1.6 Verification Team

InterPraxis (www.interpraxis.com) is an established social and economic consulting firm specializing in sustainability assurance. Our two-person team for this assignment was lead by David Simpson, an ISO 14064 trained verifier and Certified Sustainability Assurance Practitioner with the International Register of Certificated Auditors (IRCA). On-the-ground support was provided by Dara Edmonds, an experienced sustainability practitioner. All members of the assurance team declare themselves to be independent, with no financial interest or consulting relationships with Vancity or its subsidiaries that would influence their ability to act impartially.

- **Lead auditor:** David Simpson, Lead Certified Sustainability Assurance Practitioner, International Register of Certificated Auditors (IRCA). No. 1188531

Auditor (s): Dara Edmonds, Auditor, InterPraxis Sustainability Assurance

Duration of verification

Preparations, on-site verifications, reporting: From 09-04-2009 to 24-04-2009.

2.0 Description of the Entity's Carbon Footprint

Vancity's total reported emissions for the year ending December 31, 2008 are 5305.4 tCO₂eq based on the "control" method of consolidation, which accounts for all quantified GHG emissions and/or removals from facilities over which it has financial or operation control.

While Vancity's GHG inventory includes all mandatory reporting requirements of ISO 14064-1 (direct GHG emissions and indirect energy emissions), it also includes additional indirect GHG emissions. Certain sources of emissions that were not quantified include:

- Emissions associated with taxi travel to airports
- Emissions associated with ferry travel
- Emissions related to the use of back-up generators and 6 non-branch ATMs
- GHG emissions associated with refrigerants (air conditioners, refrigerators)
- Emissions related to the production of bank/credit cards

These above emission sources were not considered to be material.

2.1 Summary of Quantification Methods

Energy

Vancity owns and/or leases both office space and retail space to carry out its operations. Its energy-related emissions are based on the operation of these different facilities, which totaled some 76 facilities in 2008. Emission factors for electricity are derived from the BC Hydro's reported GHG intensity (emissions) factor. Natural gas emissions factors are based on data from BC based Terasen Gas. Electricity is metered at most facilities, while natural gas is metered at less than half of the facilities where it is used. Consumption At non-metered facilities is estimated using a model. The model estimates average electricity and gas use per unit area for all Vancity facilities, categorizes these facilities, and then assumes that similar non-metered facilities use the same amount of gas per unit area.

Vehicle Transportation

Vancity has a number of transportation-related GHG emissions sources. These include work related travel by air and by vehicle and employee commuting, by private vehicle, to and from

work. For each travel category, total fuel consumption is estimated or measured and emission factors will be generated from the most recent fuel economy estimates from Natural Resources Canada (NRCan).

For some vehicle travel sources (employee commuting, car allowance travel), neither fuel consumption nor distance traveled is directly tracked. For these sources a travel survey is used to estimate distance traveled and ultimately total emissions, again using estimates from NRCan.

For situations where Vancity employees use their own vehicles for work-related travel Vancity calculates the total mileage, based on employee mileage reimbursement requests, and estimates the total emissions based on the average fuel economy data published annually by NRCan.

Air Travel

Flight length classification (short, medium or long haul) for Vancity is obtained from the World Resources Institute. Emission factors for air travel are derived from the UK Department for Environment, Food and Rural Affairs (DEFRA)'s 2008 data.

Paper

Vancity has developed procedures to track paper use and measures this in metric tonnes¹. It then calculates the emissions associated with its paper use using a protocol developed by Environmental Defence Fund – <http://www.edf.org/papercalculator/>.

The preparation of a GHG inventory under the ISO14064-1 standard and the requirements of the CSA Cleanstart Registry, allow for the use of different methodologies, assumptions and data standards. We find that the methods, assumptions and data standards used by Vancity reflect a conservative approach in measuring its inventory and reflect the principles of the ISO 14064-1 Standard entitled *Greenhouse Gases - Specification with Guidance at the Organization Level for Quantification of Greenhouse Gas Emissions and Removals*.

¹ Office paper usage for Squamish Savings was not captured for this cycle. However due to branch size, we do not anticipate this to have a material effect on Vancity's calculation of its GHG emissions.

2.2 Review of Documentation

The verification process included a document review, which is evaluated through a risk assessment process and reviewed against the protocols of the ISO 14064-1 standard, and internal policies and procedures. The verification team reviewed the various documents and communications, as well as source documents, such as energy bills, travel expense claims, fleet records, product invoices and lease agreements of building/office spaces.

2.3 Site Visits

The verification team conducted a site review in Vancouver at the head offices of Vancity and Citizens Bank of Canada. As part of the site visit, the following people were interviewed:

Name	Position / Organization
K. Dunford	Senior Associate, Community Leadership, Vancity
C. Lim	External Transportation Survey Specialist , Acuere Consulting
S. Xu	Finance Officer, Accounts Payable Group, Vancity
T. Williams	Compensation Program Analyst, Human Resources, Vancity
S. Khan	Commercial Account Manager, Vancity Insurance
W. Worrall	Manager, Property Management & Leasing, Vancity
B. O'Donnell	Principal, Prism Engineering
B. Kellington	Manager, Purchasing Services, Vancity

Main topics of the interviews included process walk-throughs, information management procedures, a review of a control or monitoring mechanisms and data anomalies in the model (if any).

2.4 Assessment

Our assessment included the following:

- review of project documentation;
- on-site inspections, including review of records, interviews with employees and contractors involved in GHG data collection process;
- collection of emission factor measurements;

- observation of established practices;
- testing the accuracy and reliability of the GHG model, surveys and other related tools;
and
- review of information management and document control procedures.

2.5 Reporting of Findings

For the purposes of this assignment, the verifiers may raise three different types of findings. These are:

Corrective Action Requests (CAR) – a CAR is issued where material misstatements have been reported in the Report.

Future Action Requests (FAR) – a FAR is issued where management and information management procedures and/.or reporting practices require attention or adjustment in the next verification period.

New Information Requests (NIR) – a NIR is issued where insufficient information is available and clarification or new information is required.

3.0 Verification Findings

After an on-site visit, the below findings have been raised by the audit team. All of these items have been successfully closed out upon further information or explanations being supplied

No.	Corrective Action Request (CAR)	Resolution
1	Business travel data from Vancity Community Foundation has not been included in the inventory total. (April 16/09)	Action was taken to include missing travel information, and data was corrected in May 09.
No.	New Information Request (NIR)	Resolution
2	Provide explanation for additional 259.9 tCO ₂ e in emission from employee commuting for base year 2007.	CO ₂ e emissions factor for commuting updated Jan 09 based on best practice. 2007 figure recalculated using updated factor to ensure comparability with 2008 figure.

3.1 GHG Inventory Design and Development

The design meets the requirements of the standard:

- Facility level GHG missions consolidated in an appropriate manner;
- Organizational and operational boundaries clearly set out;
- Material emission sources identified and quantified;
- Acceptable quantification methods and modeling assumptions and
- Uncertainties taken into account and documented.

3.2 Effectiveness of Controls and Monitoring

GHG monitoring methods and controls are not effective as they should be and can be improved without implementing an excessive level of bureaucracy. Greater checking and monitoring within the departments where the data is generated or at the level where the data is inputted can help ensure the accuracy and completeness of data. Opportunities also exist to involve internal audit in the periodic checks of data gathering systems.

The Data Collection Officer (DCO) acknowledges and understands the importance of checking the data that she receives from the various lines of business – and does an effective job in this regard. However, the DCO, in many instances, can only check the data for reasonableness based on previous year’s data or trend analysis. The DCO needs to be able to rely on the various data she receives and know that it has been checked at least once at source.

Future Action Requests

- Encourage the facilities department to develop internal systems to capture and maintain up-to-date GHG-related data. Systems should also ensure checks on completeness and correctness of the GHG data provides to and receives from the external consultant(s).
- Implement a method to track and measure office paper use by Squamish Savings.
- Develop monitoring procedures in the Accounts Payable Group to check that non-financial data, which is entered manually (i.e. Air Travel), is effectively captured. During our site visit, we noted an instance where air travel data has not been captured in the data set. While there are checks in place to monitor automotive travel, none exist for air travel.
- Develop monitoring/checking procedures for Vancity Community Foundation with regard to the business travel data it delivers to the GHG DCO.

3.3 Accuracy of Emission Calculations

Organizations may use a number of different methodologies and assumptions in calculating and preparing their GHG inventory. We find that the methods, assumptions and data standards used by Vancity reflect a conservative approach in measuring its inventory and are in accordance with the principles of the ISO 14064-1 Standard entitled *Greenhouse Gases - Specification with Guidance at the Organization Level for Quantification of Greenhouse Gas Emissions and Removals*.

The emissions factors used are:

- Relevant;
- Based on recognized sources (provincial, national and international);
- Recent; and
- Take account of uncertainty where possible.

3.4 Quality of Evidence to Determine Emissions

The quality of evidence is of sufficient quantity and appropriate quality to determine emissions. However, some areas of voluntary reporting in scope 3 deserve special attention.

Employee Commuting:

More than 1/3 of Vancity's total emissions stem from employee commuting. This result is based on a survey tool that generates data to use in an employee commuting emissions model. While more than 50 percent of employees participated in the survey, the uncertainties for this data remain high. Nonetheless, we have reviewed Vancity's methods for calculating emissions associated with employee commuting and the efforts to reduce uncertainty in this area. We are satisfied with the way this number is generated.

Paper:

Similarly, with the exception of office paper usage by Squamish Savings, Vancity has developed procedures for tracking paper use and its related emissions. While uncertainty in this area is high, (both from the perspective of data collection and the assessment of types of paper emissions) we are satisfied with the procedures in place and find them to be reasonable.

3.5 Management Letter: Observations and Recommendations

A detailed letter outlining our observations and recommendations has been prepared for management.

4.0 GHG Management Scorecard

As part of our assessment, InterPraxis has prepared this scorecard with reference to the overall principles outlined in ISO 14064 Greenhouse Gases - Specification with Guidance at the Organization Level for Quantification of Greenhouse Gas Emissions and Removals. These scores are based on our assessment of the level of compliance with the principles contained in the standard and our own professional experience.

ISO Principle	Above average	Average	Unsatisfactory
Relevance : Selects GHG sources, data and methodologies that are appropriate to the needs of the intended users	<input checked="" type="checkbox"/>		
Completeness: All relevant GHG emissions are included	<input checked="" type="checkbox"/>		
Consistency: Enables meaningful comparisons of GHG-related information		<input checked="" type="checkbox"/>	
Accuracy: Reduces bias and uncertainties as far as is practical	<input checked="" type="checkbox"/>		
Transparency: Discloses sufficient and appropriate GHG-related information that allows intended users to make decisions with reasonable confidence		<input checked="" type="checkbox"/>	

5.0 Verification Statement

Reporting period:

From 01-01-2008 to 31-12-2009

Verified emissions in reporting period:

- | | |
|-----------------------------------|-----------------------|
| ➤ Baseline emissions (2007) | 5525t CO2 equivalents |
| ➤ GHG Inventory (2008) | 5305t CO2 equivalents |
| ➤ Purchased carbon offsets (2008) | 6000t CO2 equivalents |

Verification Statement

Introduction

InterPraxis has been commissioned by Vancity to verify the data and assertions presented in its greenhouse gas (GHG) emissions inventory report and review the carbon offsets for the year ending December 31st, 2008.

Our opinion relates to Vancity's GHG emissions data, systems and assertions as presented in its 2008 Carbon Footprint Report and 2008 Carbon Neutral Report in accordance with ISO 14064-3 and the requirements of the Canadian Standard Association's GHG CleanStart Registry Program.

Responsibilities

The 2008 Carbon Footprint Report and the 2008 Carbon Neutral Report (together hereafter referred to as the "Report") is prepared solely by Vancity, which is responsible for its entire content. This verification report is the sole responsibility of InterPraxis. The aim of the Report is to permit the Vancity Group to report on its GHG emissions, removals, directed actions and purchased carbon offsets. The objectives of the assurance assignment is to perform sufficient work to provide a reasonable level of assurance as to whether the Report, in all material respects, gives a fair representation of GHG data and information and has been prepared in accordance with ISO 14064-1.

Basis of GHG Verification Opinion

Our verification approach was based on the requirements of ISO 14064-3 entitled *Specification with Guidance for the Validation and Verification of Greenhouse Gas Assertions*.

Approach

Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. Our examination includes an assessment, on a test basis, of evidence used to generate the GHG emissions data in the Report.

This approach aligns the assurance process to the reporting organization's definition of scope and assurance engagement which, in this case, focuses on GHG emissions and carbon offset data.

We planned and performed our work to obtain the information and explanations considered necessary to form sufficient evidence so as to enable us to provide reasonable assurance on the GHG data and information we reviewed. Our procedures included obtaining, examining and evaluating evidence supporting the collection, consolidation and reporting of the selected performance indicators. Our examination includes assessment, on a test basis, of collected data on GHG emissions during the audit period. Evidence consisted of:

- Conducting enquiries of relevant Vancity management and staff;
- Obtaining an understanding of the management systems, processes and controls used to generate, aggregate and report the data;
- Reviewing of recognized emission factor protocols
- Reconciling of data to accounting and other Vancity records;
- Reviewing receipts and records for carbon offset purchases; and
- Testing and recalculation of quantitative data.

Opinion

Based on our audit work, Vancity's chosen methodologies, assumptions and data standards (all which meet the ISO 14064-1 standards), it is our opinion that Vancity's GHG emission assertions reported in the 2008 Carbon Footprint Report and 2008 Carbon Neutral Report are fairly stated.



David Simpson
InterPraxis
Toronto
April 24, 2009