

# LEADING...OUT OF THE BLOCKS

Get ahead and stay informed about real estate investment trends



## Blue Sky Thinking About Green:

### Volume Four – GWLRA's Assessment of its Carbon Footprint

April 2009

Our "Leading...Out of the Blocks" series continues to evolve: what you have before you today is a "sister volume" designed to heighten our awareness about emerging opportunities to incorporate sustainable elements into the management of real estate. We are doing so in partnership with recognized experts who are eager to help GWL Realty Advisors advance our clients' best interests and our collective knowledge base. This volume has been prepared in conjunction with Delphi Group, an Ottawa-based consulting firm helping organizations navigate the complex areas of corporate sustainability and greenhouse gas/clean air management.

We have quite deliberately subtitled this series "**Blue Sky Thinking About Green.**" "Blue sky thinking" may best be described as a means to give consideration to all possible opportunities, without pre-conceptions.

#### INAUGURAL GREENHOUSE GAS (GHG) EMISSIONS REPORT

In the coming months, GWLRA will be releasing details on the 2008 greenhouse gas (GHG) emissions for its corporate and regional offices across Canada. This inaugural report will serve as a cornerstone for staff and GWLRA as a whole to work towards reducing greenhouse gas emissions and to address climate change.


GWLRA selected Delphi Group as its advisor in adopting a carbon management strategy. Delphi is employing proprietary analytical tools to help GWLRA understand its footprint and what adaptations can be made going forward. To ensure that an accurate and credible report is prepared, the World Resource Institute's GHG Protocol, a recognized standard for calculating GHG emissions, is being used.



#### Benefits and Process of Assessing GHG Emissions

Depending on the corporation or organization, and how it implements a carbon management strategy, the following are a few of the wide-ranging potential benefits:

- an ability to capture value from reductions in emissions
- the creation of new tools for decision-making
- differentiation in the global marketplace
- improved community relations
- a lower risk profile
- enhanced shareholder value
- a more resilient business model for adapting to any future regulatory change



**GWLRA's goals in particular are to encourage and facilitate changes in behaviour and practices that reduce our individual and corporate footprint, set a positive example in the real estate community, and practice fiscal prudence.** The process of assessing GHG emissions begins with a thorough understanding of GWLRA's GHG and air emissions inventory. During inventory development GWLRA's carbon footprint is measured to establish a baseline from which to measure and audit going forward.

The carbon footprint report will contain useful information on key emission sources for each GWLRA corporate and regional office, such as emissions from heating, air conditioning, electricity use and business travel. By looking at the relative contribution of each source to overall emissions, useful information can be gathered regarding opportunities for reductions. Since these GHG emissions are closely tied to energy use and travel, staff will also be able to use this information to help cut costs. By revising the report on an annual basis, it will then be possible to track progress over time and identify key areas of success.

## GLOSSARY OF TERMS

In advance of the release of GWLRA's inaugural carbon footprint report, GWLRA and Delphi have also joined forces to provide a glossary of increasingly used terms, which are not always fully understood.

**Greenhouse Gases (GHGs):** the atmospheric gases responsible for causing global warming and climate change. When discussing GHGs, people are generally speaking about one of six major gases:

- Carbon Dioxide (CO<sub>2</sub>)
- Methane (CH<sub>4</sub>)
- Nitrous oxide (N<sub>2</sub>O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur Hexafluoride (SF<sub>6</sub>)<sup>1</sup>

**Greenhouse Gas (GHG) Emissions:** the measurement of GHG used to quantify an entity's contribution to global warming (i.e., a country, a region, a company, an individual, etc.). GHG emissions also serve as the metric with which goals and targets are set, and the standard against which progress toward regulatory compliance or voluntary commitments is measured.

**GHG Source:** any process or activity that adds GHGs to the atmosphere. Burning of fossil fuels, deforestation, and landfills are anthropogenic sources (human caused), while volcanic eruptions and forest fires can be natural sources.

**GHG Sink:** any process, activity or mechanism which removes GHGs from the atmosphere. Forests and other vegetation are sinks because they remove carbon dioxide through photosynthesis.

**Greenhouse Effect:** the trapping and build-up of heat in the atmosphere due to a change in its chemical composition (i.e., the concentration of GHGs). Some of the solar radiation which is reflected back into space by the Earth's surface is trapped by GHGs and then reradiated back toward the Earth. As the atmospheric concentrations of GHGs rise, the average temperature of the lower atmosphere gradually increases.<sup>2</sup>

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<sup>1</sup> United Nations Framework Convention on Climate Change. Glossary of climate change acronyms. 2008. Retrieved on November 21, 2008 from [http://unfccc.int/essential\\_background/glossary/items/3666.php#G](http://unfccc.int/essential_background/glossary/items/3666.php#G)

<sup>2</sup> US Environmental Protection Agency, Glossary of climate change terms. (2008). Retrieved on November 21, 2008 from <http://www.epa.gov/climatechange/glossary.html#G>

**Climate Change:** refers to any significant change in the measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from

- *Natural factors* - e.g., changes in the sun's intensity or slow changes in the Earth's orbit around the sun
- *Natural processes* - e.g., changes in ocean circulation
- *Human activities* - e.g., through burning fossil fuels, deforestation, urbanization, desertification, etc.<sup>3</sup>

**Global Warming:** an average increase in the temperature of the atmosphere near the Earth's surface that can contribute to changes in global climate patterns. Global warming is both natural and human induced.

**Mitigation:** an intervention to reduce the sources or enhance the sinks of GHGs. Mitigation activities include improving the efficiency of processes, changing the nature of the GHG source (i.e., using an electric car rather than a fossil-fuel car), preserving forests, etc.

**Cap and Trade System:** a market-based policy tool to reduce GHG emissions and address climate change. The program sets an overall maximum allowable emissions level, or cap, for regulated entities under the system. Trading occurs when entities buy and sell emissions allowances. In order to comply with the regulated cap, entities can (a) reduce their emissions or (b) purchase emissions allowances (the right to emit) in order to reach their target.



Figure 1. Example of Cap and Trade System<sup>4</sup>

**Carbon Tax:** a tax on emissions of carbon dioxide and other greenhouse gases. This is a market-based policy tool to reduce GHG emissions and address climate change. Both British Columbia and Quebec currently have carbon taxes.

**Kyoto Protocol:** an international, legally binding agreement that requires member states from developed countries to reduce GHG emissions by 5.2% below 1990 levels globally. Countries can meet their targets through a number of tools and flexibility mechanisms including emissions trading, the Clean Development Mechanism and Joint Implementation. Canada signed on in 1998, pledging to reduce emissions by 6% below 1990 levels. In February 2007, following a change in government in 2006, then Minister of the Environment John Baird said that Canada would not attempt to meet its Kyoto commitment.<sup>5</sup> The Kyoto Protocol's first commitment period ends in 2012. A post-Kyoto framework/mechanism is currently being negotiated.


**Turning the Corner Plan:** The Government of Canada's plan to regulate both greenhouse gas emissions and air pollutants from industrial emitters (released in 2007). The plan includes intensity based emissions reduction targets, a federally regulated cap and trade system, an offsets system and a technology fund.

**Intensity Based Emissions Targets:** emissions reductions based on economic output (i.e., measured as dollars per tonne of CO<sub>2</sub>).

<sup>3</sup> ibid

<sup>4</sup> DemGop Admin. Cap and Trade. Retrieved on November 19, 2008 from [http://www.demgop.net/index.php?option=com\\_content&view=article&id=54:cap-and-trade-&catid=34:editorials&Itemid=53](http://www.demgop.net/index.php?option=com_content&view=article&id=54:cap-and-trade-&catid=34:editorials&Itemid=53)

<sup>5</sup> CBC. Canada-Kyoto timeline. 2007. Retrieved November 21, 2008 from <http://www.cbc.ca/canada/story/2007/02/14/kyoto-vote.html>



**Absolute Emissions Targets:** emissions reductions strictly measured in tonnes of CO<sub>2</sub>.

**Offset Credits:** distributed by governments for emission reductions achieved through offset projects or environmental performance beyond a regulatory standard. An entity that cannot reach its emission reduction target can purchase offset credits from another entity in order to remain in compliance.

**Regional Climate Change Initiatives:** a number of US states and Canadian provinces have joined together to form regional climate change initiatives. Examples include the Western Climate Initiative (WCI), Regional Greenhouse Gas Initiative (RGGI), and the Mid-Western Governors Association. It is expected that the work completed in these groups will influence US and Canada's federal climate change legislation and a potential North-American system/approach.

### **Analysis of a Carbon Footprint Report**

It is important to consider the following top five things when reviewing any organizations' carbon footprint report:

- What are the largest sources of emissions?
- How have emissions changed since last year? (Remember, though, that if the number of offices or level of service has grown since last year, an increase in total emissions might not mean a decline in performance)
- Does the organization have control over any of the sources of emissions or associated activities; can it think of ways of reducing them?
- Based on your own experience, does it look like all relevant emission sources and activities have been considered? Are there any sources of emissions that should be included in future carbon footprint assessments?
- Are the approaches and calculation methods clearly presented, and have the report authors indicated that they followed standard practices, such as the ISO 14064 or the WRI GHG Protocol standards? If not, there may be reason to question the accuracy of the report.

**Stay tuned for the GWLRA Carbon Footprint Report, which will assist in better understanding our current level of emissions and the goals we would like to work towards. Continuous improvement requires the participation of everyone at GWLRA, because we all play a role in reducing our carbon footprint.**

**Leading... Out of the Blocks** is a periodic internal publication of GWL Realty Advisors' Analysis & Research Services.

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