

GREENHOUSE GAS EMISSIONS – AN OPPORTUNITY FOR BOMA MEMBERS

by

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One of the most challenging social, economic and environmental issues that the earth faces today is generally agreed to be climate change and the role played by greenhouse gas (GHG) emissions. David Suzuki has said that the consequences to the human race of not acting quickly on this issue, and reducing those emissions, are "second, only to all out nuclear war".

In December, 1997, at Kyoto, 150 countries, including Canada reached agreement on a protocol which sets binding limits on GHG emissions for all industrialized countries. Canada, with support from the Alberta government, has made a commitment to reduce annual emissions to 6% below 1990 levels by between Currently, all levels of government and all stakeholders are evaluating options to reduce emissions without seriously affecting Canada's economy.

Greenhouse Gases

Interestingly, GHGs are naturally occurring and, if it were not for their presence, the planet would likely be uninhabitable for humans. They have the ability to trap heat from the sun. The problem is that the greater their concentration in the atmosphere, the greater is the amount of trapped heat. Over the past 100 years, partly through deforestation (trees absorb carbon dioxide) but primarily through accelerating industrial activity and the associated burning of fossil fuels (e.g., coal, natural gas, gasoline), GHG concentrations have been increasing. The main GHGs are carbon dioxide (CO₂), nitrous oxide (N₂O) and methane (CH₄). These increases in concentration are believed to lead to erratic weather, melting polar caps and drought in certain world regions.

How Office Buildings contribute to GHG emissions

The burning of fossil fuels (coal in Alberta) to produce electricity and methane to heat buildings produces two of the primary GHGs; CO₂ and N₂O. Every kilowatt-hour of electricity, which is generated by the combustion of coal, produces approximately 2 pounds of GHG, while the combustion of one giga Joule of methane produces about 125 pounds.

Since an office building consumes electricity and is heated by natural gas combustion, it contributes to GHG production. Examples of effective actions to reduce electricity and gas consumption in Calgary office buildings have included boiler retrofitting, proper systems of parkade ventilation and relamping of tenant space using energy efficient ballasts and lamps.

Options to meet Canada's commitment

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One option that is presently being considered is GHG Offset (or Credit) trading. In other words, a market for GHG emissions is created where every tonne that is removed from the atmosphere, or prevented from being emitted, is bought and sold, like pork bellies or canola. Its fundamental principle is that industry and governments who have the ability to reduce energy consumption (and GHG emissions), for low cost, can sell those "credits" to organizations where the costs are much higher. So, by encouraging investment in lower cost conservation opportunities the trading system has the potential to help Canada meet its Kyoto commitment while not detrimentally affecting the economy.

For the office building industry, the capital cost associated with lowering energy consumption could be more than compensated by the sale of the resulting GHG Offsets.

Advantages of a GHG Offset Trading System

A trade occurs when a buyer with high cost options for emission reduction encounters a seller who has accumulated or has the potential to accumulate offsets, using lower cost options. They can then enter into a contract to transfer ownership of the GHG emission offsets. BOMA members are likely to be sellers.

There are still many questions that must be answered before an effective trading system can be properly implemented. In fact, it is far from certain at this time that the Kyoto agreement will survive but, in spite of that, many businesses that consume a great deal of fossil fuels have chosen to start hedging the risk that they could be forced to meet federal government imposed emission limits.

The federal government and industry is currently gaining practical experience on how a GHG emission reduction trading system would work, through a pilot program called GERT, which is the acronym for Greenhouse Gas Emission Reduction Trading Pilot.

From now until the end of 2001, GERT is the official registration vehicle through which the GHG Offset seller and buyer can receive technical review and validation of the claimed Offsets. Once accepted under the GERT framework, the reduction can be registered and eligible for sale. According to Warren Bell, GERT Pilot Manager, "emission trading provides a market incentive to reduce emissions and could be a key element of Canada's efforts to address climate change."

Should BOMA members participate now?

Over the past 12 months, companies such as Enmax, TransAlta Corp., Epcor Utilities and Ontario Power have undertaken purchases (or trades) of Offsets. It is apparent that although there are few generally accepted rules, no accepted system of valuation and no scrutiny from regulators, these companies believe that the gamble of buying Offsets, although speculative, is worth the risk. They recognize that the price to buy now is much cheaper than they will be if emission reduction is made legally binding.

Although not public information, it is believed that the trades have been taking place at between 50 cents and \$5.00 per tonne, depending on the perceived quality of reduction measures used to create the Offsets. Observers estimate however that the price could rapidly reach more than \$15 per tonne if the Kyoto agreement is ratified and rules governing trading are formalized.

There are four reasons why BOMA members should consider becoming involved at this time:

1. The costs of reducing energy consumption and GHG emissions are relatively low for office buildings. Therefore it is very likely that when the government of Canada imposes emission guidelines, BOMA members will be sellers rather than buyers. Since the capital costs of accumulating emission Offsets are usually passed on to the tenants of each individual building, the revenue from their sale can only be beneficial to the building's short term and long term bottom line. A survey of 1999 energy consumption by downtown Calgary office buildings, conducted by C5 Plus Ltd., presented data that suggests that downtown Calgary office buildings reduced GHG emissions by approximately 47,000 metric tons (tonne) between 1997 and 1999. If a buyer could be found for those existing Offsets, at today's prices the financial bottom lines could be increased by anywhere between \$25,000 and \$250,000. At \$15 per tonne, the financial benefit would be in the neighborhood of \$750,000.

2. The Offsets that can be generated by an office building are based on substance and relatively easy to verify. Consequently, their value should be at the high end of the price scale and interest on the part of purchasers should be high.

3. To gain experience with the trading review and record keeping system imposed by GERT. It will allow the examination of the technical aspects of GHG emissions reduction and associated risks of the trade. There are opportunities for office buildings that have accumulated Offsets, to sell them at this time.

4. To create the investment asset early. Provided that the federal government, as expected, imposes GHG emission guidelines, verified accumulated energy Offsets are not likely to disappear and could be sold at the seller's convenience. They will accumulate with each passing year and their value would also be expected to increase.

Currently, one Calgary office building has made an application with GERT to verify its emission offsets and thereby set the stage for their potential future sale. As of last March 23, another BOMA Calgary member, Enmax Corporation, completed a trade with the purchase of future Offsets resulting from wind generated power.

Summary

An item appearing in the August 22, 2000 issue of the Globe and Mail, entitled "*Onetime Icecap at North Pole turns into Lake*" went on to say that the startling discovery of open water, where the icecap should be, gives ammunition to those who say that Canada and other industrialized countries are moving too slowly to tackle global warming. On average, the ice is being found to be 40 percent thinner than just 25 years ago. " ... it rings a bell for Canadians that says that climate change is not a theoretical issue; it's happening, and it's happening within our own borders."

By taking steps to conserve energy and reduce GHG emissions, leading building owners and managers can demonstrate responsible and wise stewardship of our environment while, through GHG offset sales, adding considerably to their financial bottom line. Like other leading business sectors, the opportunity is available for BOMA members to gain valuable experience and create a positive image of the industry with the regulators.