# Voluntary carbon deals break records

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Since the 1997 Kyoto Protocol to the Rio Climate Convention, Washington legislators have spoken about global warming and its policy cousin emissions trading – like old soldiers vaguely remembering a defeated enemy in a long-passed military conflict.

However, this month in the capital markets and in a few cities in North America, the dialogue has become vivid and more animated, with the completion of two of the largest greenhouse gas emission trades in history.

Currently, there is no central market for greenhouse gas emissions, and historical trades have not disclosed all of the transaction details.[1] It appears that since the 1992 Rio Earth Summit, there have been almost 20 trades involving over 10 million tons of carbon dioxide ($CO_2$)-equivalent emission reductions. It should be noted that many of these transactions involved options for future purchase of reductions rather than a full-fledged spot or future sale.

The transaction volume in November 1999 reached a total of more than 5 million tons of $CO_2$ equivalent reductions, equal to the emissions of one million cars for one year. This volume of trading is small relative to the capital markets and is based on voluntary commitments. Nonetheless, these two transactions are sending a strong signal that the private sector is building the required infrastructure for full-blown markets. An examination of one of the transactions can help demystify the mechanics of an environmental derivatives trade as well as the motivations of the participants.

On 26 October 1999 the *Wall Street Journal* reported that Ontario Power Generation had purchased emissions reductions of 2.5 million tons of $CO_2$-equivalent from Zahren Alternative Power Corporation (ZAPCO), a developer of landfill methane collection systems. The reductions were, or will be, generated in the years 1998, 1999 and 2000.

The trade is significant for several reasons:

☐ It is the largest spot greenhouse gas emissions trade in history.

☐ The participants are a Canadian buyer and a US seller, thereby making it international.

☐ The reductions have and will be registered by the US Department of Energy under the Energy Policy Act of 1992 and will also be recorded by the Canadian government under its Pilot Emission Reduction Trading Program.

☐ The emission reductions will be monitored twice – by ZAPCO and by the buyer of the methane gas – and independently attested to by PricewaterhouseCoopers.

☐ The reductions achieved were carefully selected to ensure that they are surplus to any regulatory requirements in the US and that the transfer is legally incontestable.

Ontario Power Generation has set a voluntary, corporate target of stabilising its greenhouse gas emissions at 1990 levels of 26 million tonnes of $CO_2$-equivalent from the year 2000 forward. The company's goal is to expand into new electricity markets while operating in a safe, open and environmentally responsible manner. It is also committed to meeting environmental goals at the lowest cost to its customers.

Ontario Power's greenhouse gas emissions reduction pledge will be achieved through a portfolio of activities. Internal energy efficiency measures will produce a significant amount of the reductions. Alternatively, some portion of the reductions can be achieved by purchasing offsets (reductions achieved by others), where this is financially desirable and serves the purpose of stimulating this new market.

After a considerable search, ZAPCO was identified as a natural counterparty. The company's principal business is to drill wells in solid waste landfills, extract methane and sell the methane for energy use, primarily to generate electricity. Methane is a natural byproduct of landfill waste. As a greenhouse gas, it is also chemically 21 times more potent than $CO_2$ in contributing to global warming. If not collected from the landfill and destroyed (burned), it will seep into the atmosphere. In this particular example, without ZAPCO's intervention, 2.5 million tons of $CO_2$-equivalent would have seeped into the atmosphere. This would have had the same impact on global warming as 500,000 cars operating for a year.

ZAPCO's incentive for trading is easy to understand. The sale of the emissions reductions provides a new revenue stream for its production of sustainable energy. As a result, its "return on investment" increases. ZAPCO can expand its operations, thereby cleaning additional landfills.

This trade also provides additional resources to monitor, verify and independently attest to emissions reductions. Through these processes, we will take another critical step in the development of environmental derivatives. Defining and accurately measuring emissions reductions are pre-requisites for creating a 'homogenous' commodity and an effective trading system. Product standardisation is essential for all of us to fully realise the gains from market-based solutions to environmental problems.

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1 Emission "credits" are generally earned for reductions below a reference emissions level or rate. An emission "allowance", as in the case of the US sulphur dioxide trading program, refers to the officially sanctioned permission to emit a unit of the regulated pollutant. The regulator distributes allowances for use in compliance and trading. The term "$CO_2$ emission offsets" is generally used to describe reductions or sequestration that occur outside of the polluting entity. In particular, this often refers to carbon sequestered in biomass or soils. The terms "emissions" and "emission reductions" are used to describe the transactions of the emerging market for greenhouse gas emissions because greenhouse gases are not yet regulated.

**The carbon market is here – significant deals**

- Niagara Mohawk-Arizona P.S. $SO_2$ for $CO_2$ Swap (1997)
- Norway purchase of carbon offsets from Costa Rica's rainforests (1997)
- Costa Rica sale of carbon offsets to Environmental Financial (1998)
- Suncor buys GHG options from Niagara Mohawk (1998)
- Waste Management sold GHG credits as options to Japanese buyer (1999)
- IGF sells soil sequestration credits to Canadian energy consortium (1999)
- Ontario Power Generation purchase of GHG emission credits from Zahren Alternative Power Corporation (1999) [arranged by Environmental Financial Products]