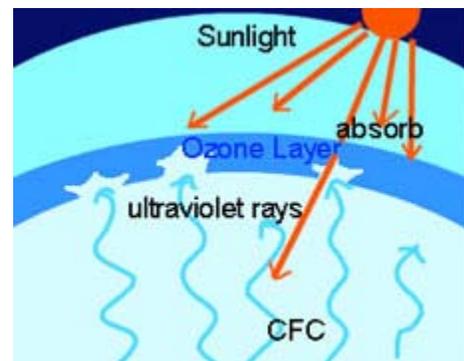


ODS Projects Enter the Carbon Market: A Near-Term Solution to Climate Change

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By Jill Abelson & Joe Madden

Last October, on the eve of the Copenhagen talks, Richard Levangie pointed out that [climate change isn't only about carbon dioxide](#). Doing more to reduce non-CO2 climate change contributors, Levangie reported, “might head global warming off at the pass,” citing Nobel Laureate Dr. Mario Molina and co-authors of a paper published in the Proceedings of the National Academy of Sciences (PNAS). Calls for near-term action on non-CO2 greenhouse pollutants as a way to slow down climate change have [steadily increased since then](#).



Non CO2 gases typically refer to hydrofluorocarbons (HFCs), methane, tropospheric ozone – which are in the Kyoto “basket” of gases, and black carbon. All of these gases are extremely good at absorbing infrared radiation, but can be reduced with readily available technologies or substitutes.

Overlooked until now in the climate change policy discussion is another entire class of non-CO2 greenhouse gases — chlorofluorocarbons (CFCs) and other ozone depleting substances, collectively called **ODS**. ODS not only destroy the earth’s ozone layer, as their name suggests, they are also extremely powerful greenhouse gases — some up to 10,000 times more potent than CO2 pound-for-pound.

Government, industry and environmental groups considered these gases fully controlled under the Montreal Protocol, but that is only partially true as I’ll discuss below. A global effort is now underway to create market-based incentives to prevent large scale emissions of these chemicals.

Background on ODS

Ozone depleting substances (ODS) — including CFC11, CFC12, Halon 1211 and HCFC 22 — have been used in a variety of important applications, including aerosols, refrigeration, air conditioning, insulation foam, solvent cleaning, and fire suppression. The Montreal Protocol, ratified by 195 countries, established legally binding controls on national production of ODS. The Protocol is widely considered an environmental success story: it has succeeded in cutting

back production of ODS by 97% from historic baseline levels. Concentrations of CFCs and halons in the stratosphere are showing signs of stabilization, and the ozone layer is expected to recover sometime around 2065.

A New Crossroads: ODS and Climate Change



Despite this success, large quantities of CFCs produced prior to phase-out deadlines remain in use in older equipment and infrastructure, e.g., refrigerators, air conditioners, building chillers, supermarket systems, food warehouses and food processing plants, refineries, building insulation, and fire suppression systems. As a result there is continued demand for reclaimed ODS to replenish old, and often leaky, equipment. A 2005 report by the IPCC and Montreal Protocol Technology and Economic

Assessment (TEAP) Panel estimated that global ODS banks, not yet emitted into the atmosphere, represented the equivalent of 21.1 billion tons of CO₂ in 2002, approximately 18 billion tons of CO₂eq today. This unreleased gas is equivalent to 3 times the total annual GHG emissions of the U.S. Taken together, these emissions would effectively cancel out all of the GHG reductions achieved under Kyoto's first commitment period.

A large portion of these ODS banks are being rapidly released. According to the IPCC/TEAP Report, left unaddressed, by 2015 more than 6 billion tons of CO₂eq will be emitted as CFC and HCFC refrigerants leak or are vented from older equipment.

Neither Montreal nor the Kyoto Protocol control ODS emissions. In most countries, there are no requirements or incentives for recovery and destruction of these materials under domestic regulations, including the U.S. In those countries that have attempted to mandate destruction of ODS, much of the gases have gone unaccounted for – the suspicion has been that equipment owners simply vented rather than comply (which would be a cost to them), and policing the thousands or even millions of diffuse sources is impossible.

Market Potential for ODS Projects

These regulatory gaps leave room for market-based solutions that provide incentives to capture and permanently deal with these materials. There is growing recognition that carbon markets represent an ideal solution. The Chicago Climate Exchange, Voluntary Carbon Standard and the Climate Action Reserve have all established programs to create GHG reduction credits from verified destruction of ODS. Beginning in 2009, Parties to the Montreal Protocol funded pilot ODS projects to examine how voluntary carbon markets could help address remaining ODS banks.

ODS destruction credits are now being issued to projects that intervene in the business-as-usual cycle of recycling CFC refrigerants back into older equipment. Energy used to collect, transport,

and destroy the chemicals are factored into net GHG credits. ODS destruction projects meet, and in some ways exceed the criteria for GHG offsets: they are “additional” (i.e., beyond current requirements), predictable, transparent, readily verifiable, and offer immediate and permanent emission reductions. These are important distinctions in an increasingly selective carbon credit market.

Projects Developed and Listed

The [Climate Action Reserve](#) has already listed four ODS projects since their adoption of new standards in February 2010, with more expected. Earlier smaller volume projects have been registered under the Chicago Climate Exchange. It is fair to say that absent sufficient incentives from the voluntary and emerging compliance markets, these projects – and those from other project developers – would not be economically viable and those gases would be lost forever.

Policy Leadership Vital

While voluntary carbon markets have been essential in the development of standards and to spur early action, the scope of the problem in the U.S. and globally – requires that ODS destruction be recognized as a compliance credit under emerging compliance markets. As has been the case in many environmental issues, California is once again taking a leadership position by proposing that ODS destruction be included as a regulatory offset under the [AB 32](#) program. This would immediately mobilize more projects in the near term, and needed investment in new technologies and a market transformation in the longer-term.

Recent Congressional bills – Waxman/Markey and Kerry/Lieberman – have also classified ODS destruction as a compliance offset. As of this writing, it remains uncertain whether any federal legislation to address greenhouse gases will emerge, making the action under [AB 32](#) that much more critical.

California’s leadership will not only have important and short-term impacts in the U.S., but will also demonstrate for international policymakers that it is possible to leverage carbon financing to manage ODS banks, preventing hundreds of millions of tons of greenhouse gases, and preserve the legacy of the Montreal Protocol.

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