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EOS CLIMATE™

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Brieanne Aguila
Manager, Offsets/Cap-and-Trade
California Air Resources Board

Dear Ms. Aguila:

EOS Climate designs and implements projects that collect and destroy the remaining banks of ozone depleting substances (ODS) that are increasingly becoming recognized as a large, unregulated source of greenhouse gas (GHG) emissions. Based on our work to develop projects both in North America and overseas, we believe that international offsets that are generated using protocols that meet the highest possible monitoring, reporting, and verification requirements should be eligible for compliance under AB 32.

The comments that follow address the elements in your July 30, 2009 presentation that are relevant to ODS specifically.

Banks of Ozone Depleting Substances Represent an Early and Significant GHG Emission Reduction Opportunity

Chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), halons, and other ODS not only destroy stratospheric ozone but are powerful greenhouse gases, with global warming potentials up to 11,000 times greater CO_2, and atmospheric lifetimes up to 150 years. Large quantities of ODS, produced prior to their phase-out deadlines under the Montreal Protocol, remain in legal use or storage in older equipment, building infrastructure, and stockpiles.

The IPCC and the Montreal Protocol Technology Economic and Assessment Panel (TEAP) estimate that in 2002, global ODS banks not yet emitted represented the equivalent of 21.2 billion tons of CO_2eq in 2002[1]. Of this total, the TEAP Task Force on ODS bank management recently concluded in their interim report that in 2010, the "reachable" banks of CFCs, HCFCs, and halons will be approximately 8.8 billion tons of CO_2 eq[2], most of which is expected to be lost to the atmosphere by 2015 under business as usual. This rapid loss is attributable to older, leaky equipment, poor service practices, and a lack of incentive to recover ODS across millions of diffuse sources that are reaching their end-of-life.

[1] Intergovernmental Panel on Climate Change, Technology and Economics Assessment Panel (2005) *IPCC/TEAP Special Report on Safeguarding the Ozone Layer and the Global Climate System: Issues Related to Hydrofluorocarbons and Perfluorocarbons.*

[2] UNEP Technology and Economic Assessment Panel (June 2009) Task Force Decision XX/7 – Interim Report, *Environmentally Sound Management of Ozone-Depleting Substances.*

Destruction of ODS Banks Are "Additional, Permanent" GHG Reductions

Most classes of ODS have now been phased out of production under the Montreal Protocol; verified destruction of the remaining banks of these particular chemicals represents an additional and permanent GHG reduction because: 1) Additional production is not possible anywhere in the world; and 2) Neither the Montreal nor Kyoto Protocol controls emissions from, or requires the elimination of remaining ODS. In the absence of regulatory requirements or incentives to capture and destroy these materials, they will ultimately be released to the atmosphere under business as usual. ODS in older refrigeration and air conditioning equipment will continue to leak at rapid rates, and when recovered at the end-of-life of appliances and equipment, will be resold in the after-market for use in other older. leaky equipment. ODS in insulation foam from appliances or building materials is typically shredded and landfilled where it is released to the atmosphere. ODS in stockpiles are often simply vented due to the avoidance of destruction costs. When ODS destruction becomes eligible for carbon offsets, then existing stockpiles become assets that can generate value when their destruction is verified, thus providing the incentive for their removal.

ODS banks have not been included in California's GHG inventory and the AB 32 baseline; however, we believe this should not prevent counting ODS destruction, particularly outside California's border, as GHG offsets. For reference, ODS banks are recognized in HR 2454 as a source of GHG offsets, initially for production and import of hydrofluorocarbons (HFCs), and, if approved by US EPA, for general GHG offsets under Title VII of the bill.

Establishment of Standards for ODS Destruction Projects

Because ODS are not part of the Kyoto basket of gases, there are no quantification protocols for ODS destruction under the Clean Development Mechanism (CDM). Voluntary markets however have begun to recognize ODS destruction as a highly verifiable source of GHG reduction credits. In 2007, the Chicago Climate Exchange was the first to accept ODS destruction as a GHG offset. Both the Voluntary Carbon Standard (VCS) and the Climate Action Reserve (CAR) are currently developing ODS programs. The VCS is completing their public consultation on eligibility criteria for ODS projects which are expected to be finalized this fall. CAR is conducting a working group and public stakeholder process and plans to have Board approval of a quantification protocol by February 2010. Both VCS and CAR are basing their programs in part on rigorous baseline, monitoring, tracking, quantification, and verification methodology developed by EOS Climate in conformance with ISO standards.

International ODS Destruction Projects Can Meet Rigorous Criteria

Relative to other categories of GHG mitigation, ODS destruction is an immediate and permanent removal that can be measured and verified. EOS Climate is working with technology partners and implementing agencies around the world to use real-time monitoring and chain of custody tracking to eliminate any uncertainty regarding additionality and ODS movement from the point of origin to the destruction facility. Certified destruction facilities that meet stringent performance requirements established under the Montreal Protocol will provide assurance of 99.99% destruction efficiency.

Furthermore, the ODS destruction process has a series of steps – from ODS extraction and collection, to actual destruction at regulated facilities, that can be monitored and tracked, with known parameters. ODS destruction projects can be expected to have among the highest performance rates among various types of greenhouse gas reduction projects. Ex-post, verified delivery volumes of reductions from offset projects under the United Nation's Clean Development Mechanism from most project types such as landfill gas recovery and renewable energy projects have proven to be dramatically lower than initial projections forming the basis of regulatory approval and project financing. This has become one of the most significant barriers to the rapid scaling of project-based greenhouse gas reduction mechanisms such as offsets. ODS reduction projects, with high performance rates and control over the project cycle, would improve the overall reliability of offset mechanisms and thus lead to reduced compliance costs.

ODS Destruction Has Important Co-Benefits

We applaud ARB's intention to seek projects that go beyond the current CDM requirements and reward high-quality, sustainable offsets from the least developed countries. Because ODS destruction projects combat both greenhouse gas emissions and ODS emissions, these projects provide a significant environmental co-benefit in helping to restore the earth's stratospheric ozone layer and insure that the goals of the Montreal Protocol are met. In addition, creating the proper incentives to destroy ODS banks will accelerate the transition to more advanced technologies across multiple sectors that will have significantly greater energy efficiency with lower overall climate impacts. These transitions will also generate new manufacturing and servicing jobs.

Project-Based Vs. Sectoral Crediting

As noted, rigorous protocols will be available for ODS destruction projects. If California's cap-and-trade program were to allow project-based crediting, ODS destruction projects would contribute to an early and highly reliable supply of offsets, providing immediate, high-quality emissions reductions.

While we understand the long-term benefits of a sectoral approach for other sectors and for international offsets in general, and support ARB's intention to resolve criticisms of the project-based CDM system, given the potential for significant early offset supply and the unique regulatory situation for ODS we believe that a sectoral approach for ODS destruction will likely have negative and unintended impacts and that project-based crediting is a more appropriate approach:

- The banks of ODS are rapidly being lost as old leaky equipment continues to operate and older appliances reach end-of-life. Establishing sectoral agreements will require extensive institutional collaboration, during which time millions of tons of CO_2 equivalent will be lost to the atmosphere.
- Because the only ODS that would be eligible for destruction offsets are those that have already been phased out of production, "no-lose" intensity targets being considered for a sectoral approach do not apply to ODS banks; any destruction of ODS that has been phased

out would be an additional GHG reduction, and should not be constrained by sectoral based targets.

- Carbon-financed ODS destruction projects would not be supplanting or preventing more aggressive climate policy actions by the host countries in this sector.

We recognize the challenge of developing a system that goes beyond current international offset programs while addressing California's offset supply needs. We believe ODS destruction projects can provide immediate, high-quality, and sustainable offset opportunities for California's international cap-and-trade program. California has an opportunity to take a leadership position in addressing an overlooked threat to our climate system. We look forward to working with the ARB to develop policies and procedures to ensure that these offsets meet the highest standards.

Sincerely

Jeff Cohen
Senior VP, Science & Policy