

Engaging the Carbon Market through the Destruction of Ozone Depleting Substances

Industries utilizing ozone depleting substances (ODS) have the option to reuse, resell, store, or destroy them in accordance with the Montreal Protocol and federal regulations. Blue Source engaged a large global healthcare provider in the carbon offset market incentivizing it to voluntarily destroy its ODS, specifically chlorofluorocarbons (CFCs), for potential VER revenue rather than resell them.

Verified Offsets from CFC Destruction

Blue Source engaged a large global healthcare provider in the carbon offset market incentivizing it to voluntarily destroy its CFCs for potential verified emissions reductions (VER) revenue rather than resell them. In 2008, the healthcare company voluntarily destroyed its ODS, specifically CFC-11 and CFC-12, which were used in the manufacture of essential use metered-dose inhalers (MDIs). For this project, the company incurred costs to destroy the CFCs, rather than selling them for profit, thereby avoiding their eventual release into the atmosphere. The CFC destruction took place at the Clean Harbors El Dorado incineration facility in Arkansas, which is licensed in the treatment of hazardous wastes (RCRA regulated) and non-hazardous wastes by high temperature incineration. Clean Harbors is the leading ozone depleting substance (ODS) destruction facility in the US and incinerates about 65 percent of the domestic hazardous waste market.

The CFC destruction process generated about 1,000,000 Verified Emissions Reductions (VERs), or the equivalent of taking 600,000 cars off the road for a year.

CFC Resale Market and Business as Usual

The production of CFCs and other ODS was phased out in the United States under the Montreal Protocol and the Clean Air Act Amendments (CAAA) in 1996, but a large market still exists to sell unused, recycled or reclaimed ODS for several commercial uses. Under existing regulations, ODS use and circulation continue. Existing CFC volumes manufactured before 1996 are typically resold, recycled, and repurposed both domestically and internationally for coolants in refrigeration systems and air conditioners, as solvents to clean electronic components, as blowing agents in the production of plastic foams, and as propellants in air conditioners. Post-1996 CFC volumes may still be produced only for EPA-approved "essential use" allocations to



be used in certain MDIs. These CFCs can be resold only to other essential use allowance holders. In the United States, essential use CFCs are allocated through the EPA and are based on requests from current MDI manufacturers and the FDA's determination of the amount of CFCs necessary for each year. For both pre- and post-1996 CFCs, there is currently more money to be earned and more

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commercial incentives to keep them in use and circulation, therefore these high GWP gases are ultimately released into the atmosphere through slow leakage, accidental release, manufacturing of essential use metered-dose inhalers (MDIs), and end use by the patient.

It is mainly through the carbon offset market that companies will be incentivized to voluntarily destroy ODS for potential VER revenue rather than reclaiming or reselling them.

High Global Warming Potential

The CFCs destroyed are not only an ozone depleting substance, they also have an extremely high global warming potential (GWP), as high as 10,720. In comparison, methane has a GWP of 21 and carbon dioxide (CO₂) has a GWP of 1.



Addressing Additionality

- Regulatory Surplus – the project was not mandated by law
- Implementation Barriers – the project activity faced institutional barriers and financial barriers
- Common Practice – the project is not common practice in the sector and ODS market
- Likely Alternatives Include:
 - The CFCs would be stored indefinitely
 - Pre-1996 CFCs would be sold domestically or internationally for commercial purposes
 - Post-1996 CFCs would be resold to other “essential use” allowance holders for use in essential use MDI manufacturing.

Baseline Identification and Crediting

ODS destruction methodologies currently assume that if the project activity did not take place, one hundred percent of the ODS would be released over time due to leakage and usage, therefore credit for the entire volume destroyed at the time of destruction is given. ●

ODS Destruction Project Snapshot

Location:
New Jersey

Project Start Date:
2008

Standard:
American Carbon Registry, (ACR)

Additional Standards:
ODS destruction is under review as an accepted project type by the Climate Action Reserve and Voluntary Carbon Standard

Methodology:
Incineration of ODS Waste Streams

Verifier:
First Environment

Registry:
ACR

ODS Destroyed:
CFC-11, CFC-12

CFC Volume:
187.4 metric tons

VERs Created:
1,200,000

Expected Delivery Date:
April 2009

Common Industry Practice:
Pre-1996 CFCs would be sold domestically or internationally for commercial applications.
Post-1996 CFCs would be sold domestically to an essential use allowance holder or stored indefinitely.

Learn More

For more information on purchasing ODS destruction project offsets from Blue Source’s portfolio, contact **Katie Dunn** at **212.253.5348** or e-mail **kdunn@bluesource.com**.



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