

### SUMMARY AND RESPONSE TO PUBLIC COMMENTS

The Methodology for **The Destruction of Ozone Depleting Substances and High-GWP Foam** was updated from version 1.2 to 2.0 by the American Carbon Registry (ACR).

All new methodologies and methodology modifications, whether developed internally or brought to ACR by external parties, undergo a process of public consultation and scientific peer review prior to approval.

The methodology was posted for public comment from June 13, 2022, to July 13, 2022. Comments and responses are documented here. If applicable, additional public comments received after the formal close of the public comment period are also documented herein and were considered in the final version of the methodology.

#	Organization	Citation Reference	Comment	Author Response
1	Tradewater		<p><b>General Comments</b></p> <p>Tradewater believes that the Revised ODS Protocol includes valuable and thoughtful changes that will make it easier for project developers to collect and destroy these potent greenhouse gases and increase the impact of this important work.</p> <p>Tradewater is particularly supportive of ACR’s decision to allow for the destruction of ODS outside of the United States. There is limited destruction capacity in the United States, and it is expensive. International facilities have excess capacity and better rates, enabling additional projects to be developed.</p> <p>Tradewater also strongly supports ACR’s decision to provide full credit for the environmental benefit of destroying ODS by eliminating the 10-year crediting period and reductions based upon 10-year emission rate assumptions and assumed substitute refrigerant emissions. ACR is correct to assume in the Revised ODS Protocol that 100% of a given container of ODS will eventually emit if not destroyed.</p>	Acknowledged.
2	Tradewater	Section 2.1 I	Tradewater supports the inclusion of international destruction facilities. Tradewater	Section 2.1.I.B.ii is removed as section 2.1.I.B.i already requires that the ODS destruction facility

			<p>further agrees that facilities should be deemed eligible if they use a technology that meets or exceeds the TEAP standards, without necessarily requiring that the technology be specifically approved by TEAP. In this regard, subsection “i” is appropriate – demanding that the facility demonstrate a DRE of 99.99% or better. Subsection “ii”, however, demanding a “certification” at least three years prior to a project start date, creates confusion, and sets an unnecessarily high bar that will severely limit the number of facilities available to destroy ODS.</p> <p>The proposed language in subsection “ii” does not define what certification means or how a facility would be “certified by a third party.” If this is in reference to a TEAP certification, then subsection “ii” imposes a burden on facilities inconsistent with the requirement in “B” that simply says a facility must meet or exceed TEAP <i>standards</i>.</p> <p>Such a burden is unnecessary and restrictive. On the other hand, if this certification is meant to reference a stack test sufficient to prove a DRE of 99.99% or better, then it is unduly burdensome. Stack tests that measure DRE and prove emission levels consistent with TEAP guidelines are expensive. It can also be difficult (and expensive)</p>	<p>demonstrate DRE of 99.99% and emission levels consistent with TEAP ODS destruction facility requirements.</p> <p>Section 2.1.I.B.i is updated as follows: “A facility must demonstrate DRE of 99.99% and emission levels consistent with the guidelines set forth in the TEAP report. Evidence of meeting this requirement, along with all applicable national regulatory requirements (including permits), should be demonstrated as part of project validation and verification.”</p>
--	--	--	---	--

			<p>to source and supply material for use in those stack tests. Moreover, for equipment used to destroy ODS, like hazardous waste incinerators, one test of the equipment is sufficient to prove that it works. There is no need to repeat the test again every three years as the equipment rarely if ever changes.</p> <p>Tradewater proposes that subsection “ii” therefore be revised to read as follows: <i>“A facility must show that the equipment used to destroy ODS operates consistently with the manner in which it operated at the time it demonstrated its DRE of 99.99% and emission levels consistent with TEAP guidelines.”</i></p>	
3	Tradewater	Section 2.2 XI	<p>In Tradewater’s experience, only a few countries certify or otherwise license people to handle ODS refrigerants.</p> <p>Tradewater therefore asks that this section add the phrase “if applicable” to clarify that this provision only applies if such rules or regulations are in place in a particular country.</p> <p>Specifically, Tradewater proposes that this subsection be revised to read as follows: <i>“XI. The handling, recovery, and disposal of ODS ... and by equivalent/appropriate authority/legislation in other countries, <b>if applicable.</b>”</i></p>	<p>Section 2.2 XI is revised as follows:</p> <p>The handling, recovery, and disposal of ODS refrigerants must be performed by technicians certified by the U.S. EPA under CAA, sections 608 and 609, as applicable in the U.S., as required by CEPA in Canada, and by equivalent/appropriate authority/legislation in other countries <b>that require such certification.</b> Technicians may only service refrigeration or air conditioning equipment they are certified to service. Technician name and certification type(s) must be retained as part of</p>

				the documentation retention requirements of this Methodology
4	Tradewater	Section 2.2.1 II	<p>There are large volumes of ODS refrigerant in government stockpiles. The Revised ODS Protocol is correct to recognize the additionality of destroying these stockpiles. However, the language proposed by ACR – which limits destruction to government stockpiles that “can be sold into commercial markets for subsequent use” – is too restrictive and fails to account for the additionality of destroying all government stockpiles where there is no mandate or money to destroy or convert the ODS refrigerants.</p> <p>In Tradewater’s experience, most government stockpiles cannot be sold into commercial markets. They cannot be sold to private parties for continued use because they have been confiscated and are contraband, or because government commitments to discontinue use of the ODS refrigerants prevent such a sale. At the same time, there is no mandate to destroy them and no funds to destroy them even if there is a desire to do so. When this is the case, the baseline scenario is that these ODS refrigerants are “stuck” and will eventually be released through deterioration of the cylinders or containers in which they are held.</p>	<p>Section 2.2.1.II revised as follows:</p> <p>Refrigerants from government inventories and stockpiles are only eligible if they are not required to be destroyed or converted.</p>

			<p>It is therefore additional for a private party, and carbon markets, to be used to destroy those refrigerants.</p> <p>Tradewater asks that the proposed language in this subsection be modified to allow for the destruction of “stuck” ODS refrigerants and recognize the additionality of doing so by revising this subsection to read as follows:  <i>“II. Refrigerants from government inventories and stockpiles are only eligible if they are not required to be destroyed or converted.”</i></p>	
5	Tradewater	Section 6.1 III	<p>Tradewater supports ACR’s decision to update the point of origin monitoring requirements in Section 6.2 (for material not directly recovered from equipment) to the location of the ODS prior to acquisition by the project proponent. This update makes it far more straightforward for project developers and eliminates an unnecessary hurdle that existed under the prior 500-pound rule – while also protecting the integrity of the methodology.</p> <p>Tradewater proposes that a small adjustment be made to Section 6.1 III and 6.4 II D in order to ensure consistent language in across all of the monitoring requirements.          Section 6.2 appropriately asks that a project proponent “collect and maintain <b>data</b> on the</p>	<p>As per Section 6.2, the point of origin for most ODS is location prior to acquisition by project proponent. So, the project documentation for point of origin and chain of custody would be the bill of lading used to ship the ODS. Bill of lading and shipping receipt would provide sufficient documentation for point of origin and chain of custody.</p>

			<p>point of origin” of all ODS. Section 6.1 and 6.4, however, reference <b>documentation</b> instead of data. We believe the focus is appropriately on point of origin data and information (which a project proponent must be required to know and keep and present to a verifier so that it can be verified) and not documentation (which may or may not exist and is often generated after-the-fact solely for the purpose of satisfying this requirement).</p> <p>This would mean a modification to Section 6.1 III to say: <i>“The following information associated with the point of origin must be gathered at the time of collection from the point of origin . . .”</i>          And a modification to Section 6.4 II D to say: <i>“Chain of custody and point of origin information and existing documentation”</i></p>	
6	Tradewater	Section 6.1 VIII	<p>Tradewater supports expansion of eligible refrigerants to include unused refrigerants that were designed for use as solvents and generally supports the language proposed. The chemical composition and environmental damage caused by ODS compounds marketed for use as solvents is exactly the same as ODS compounds marketed for use as refrigerants.</p> <p>We recommend, however, for purposes of greater clarity, that the phrase “marketed as</p>	<p>Section 6.1.VIII revised as follows:</p> <p>For projects destroying solvent ODS, the project proponent must maintain documentation that the ODS was <b>marketed as solvent</b> but was never used. The ODS solvent should not be a hazardous waste as per 40 CFR 261, subpart D in the U.S. and as per CEPA in Canada.</p>

			solvent” be used instead of the phrase “manufactured to be sold as solvent” in Subsection VIII. It is the packager and distributor of ODS compounds that elects to market an ODS for use as solvent – not necessarily any intent on the part of the manufacturer.	
7	Tradewater	Section 6.3 I B	<p>Tradewater has spoken to and contracted with numerous destruction facilities around the world. In the course of those conversations, it has been made clear that almost none are required to conduct quarterly calibrations of their scales. Annual calibrations are far more common.</p> <p>Tradewater therefore proposes that ACR modify this subsection to require calibration at a frequency consistent with the governing permit for the facility used for destruction. At a minimum, ACR should clarify that a calibration within six months of a project start date is sufficient, whatever the overall frequency of calibrations.</p>	<p>Section 6.3.I.B is revised as follows:</p> <p>Properly calibrated per the destruction facility’s RCRA permit, or for non-RCRA facilities, calibrated as required by the governing permit and at least <b>within six months of project start date</b> to 5% or better accuracy. RCRA facilities that do not have calibration requirements defined in their RCRA permits must calibrate scales <b>within six months of project start date</b> to 5% or better accuracy.</p>
8	Tradewater	Section 6.4 II B	<p>As Tradewater understands it, the capitalized term “Notices of Violations (NOVs)” used in this subsection is a term used by United States regulators and, in particular, US EPA. Other governments use different terms. Because this revised methodology allows for destruction outside of the United States,</p>	<p>Section 6.4.II.B revised as follows:</p> <p>Copies of all permits, Notices of Violations (NOVs) for facilities in the U.S., <b>Notices or letters of non-compliances for facilities outside the U.S.</b>, and any relevant administrative or legal consent</p>



			Tradewater suggests that the language in this subsection be made more generic to read: <i>“Copies of all permits, letters of compliance and non-compliance (if any), and any relevant administrative of legal consent orders regarding compliance with applicable rules and regulations during the project activities...”</i>	orders dating back at least 3 years prior to the project commencement date
9	Tradewater	Appendix A: Table 4	Tradewater supports the use of the updated GWP figures from AR5 of the Intergovernmental Panel on Climate Change and encourages ACR to regularly update these figures as new versions are adopted. We further suggest that ACR clarify the source for the GWP figures in Table 4 of the Revised ODS Protocol, as we have had trouble identifying whether the figures used should come from IPCC AR5: Chapter 8, Supplementary Material “Anthropogenic and Natural Radiative Forcing” Table 8.SM.16 or Table 8.A.1.	Following footnote has been added for Table 4, GWP-100 values for years 2021+:  IPCC Fifth Assessment Report (AR5), Table 8.SM.16
10	Tradewater	Appendix C: Section I G iv	Tradewater requests that the requirements for containers of mixed ODS be modified and that certain tank specifications be removed. In particular, we request that the prohibition on internal obstructions (subtopic a) and specifications for sample port locations (subtopic d) be deleted. They make the protocol unworkable and impose undue burdens on project developers.	Appendix C: Section I.G.iv is revised as follows:  a. The containers have no solid interior obstructions <b>except for mandatory baffles</b> ;  d. The sampling ports must be located in the middle third of all of the containers. <b>Front and back ports can also be used if liquid take-off</b>

			<p>As an initial matter, tanks that meet these requirements don't really exist, and must often be custom-fabricated, thus limiting project development.</p> <p>Second, based on conversations with different tank container leasing companies, the mixing capability of rear discharge tanks, in comparison to side discharge tanks, would be at least equal and likely even better. Tanks with front and back ports can still be mixed through push-pull and other methods since the liquid take off is at the rear while the liquid return is in the front.</p> <p>Third, as for solid obstructions, we have learned that many transportation regulations applicable to refrigerant gases, baffle plates are mandatory. Specifically, regulations are clear that if the filling degree of the product is below 80% of the capacity of the tank, baffle plates must be installed covering at least 50% of the surface (cross section).</p> <p>Moreover, many waste facilities have let us know that having baffle plates as solid obstructions inside of a tank which is being mixed actually contributes to the mixing of the refrigerant, making this provision counterproductive.</p>	<p><b>and return are located on the opposite sides of the tank (e.g. take-off at the rear and return in the front)</b></p>
11	Anew	General	The addition of Canada as an eligible country for sourcing ODS/High-GWP Foam has allowed for a	Acknowledged.

			<p>pathway to generate emission reductions tonnes (ERTs) from Canadian sourced ODS outside of the ‘Methodology for the Quantification, Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from the Destruction of Ozone Depleting Substances from International Sources’, version 1.0, April 2021. Given the stringent Ozone-Depleting Substance and Halocarbon Alternatives Regulations (ODSHAR) that govern the production, import, and export of ODS and High-GWP Foam in Canada, and the lack of domestic refrigerant manufacturing capacity, there lies very little risk of perverse ODS production or import for destruction purposes. In addition, as identified by the draft Methodology, there is negligible risk of Canada requesting new production of CFCs for the remaining exempt purposes and thus, no likelihood of compensatory CFC production should stockpiles be destroyed. Therefore, the inclusion of Canada within the domestic protocol is not expected to result in the production of indemonstrable ERTs and promotes the development of ODS destruction projects under ACR within Canada.</p> <p>The change in the point of origin definition to the “location of the ODS prior to acquisition by the project proponent” is beneficial as the previous definition of “where the ODS is removed from</p>	
--	--	--	--	--

			<p>service” was prohibitory. This definition allows for the destruction of ODS from stockpiles and for third party contractors who have no affiliation with the destruction project to return ODS to an aggregator. In addition, the removal of the requirement for more stringent point of origin documentation above the 500-pound threshold will allow for proponents who operate voluntary destruction programs whereby contractors may return recovered ODS to designated wholesalers to participate. To encourage contractors to return ODS, it is imperative that the process be made as simple and efficient as possible. The purpose of providing the point of origin documentation is to minimize leakage of project emissions and ensure that ODS is sourced from legitimate origins. Given that both the US and Canada have some of the most comprehensive legislation surrounding ODS and that the facility name, physical address, and zip code of the point of origin is still required, these changes are not expected to result in ODS sourced from illegitimate origins.</p> <p>The change in the baseline condition from “continued use in existing equipment” to “stockpiles of recovered ODS and high-GWP foam is in line with what’s most practicable. At the end of a refrigerant product’s useful life, it is expected that the existing equipment be replaced. Unless</p>	
--	--	--	--	--

			<p>the ODS is voluntarily collected or destroyed, it could be stockpiled indefinitely as this is an allowable practice under most legislation, resulting in its eventual complete release to atmosphere. As discussed in D.1.1, almost all equipment containing High-GWP Foams end up in landfills which results in its eventual release to the environment. “Continued use in existing equipment” is, therefore, not an applicable baseline to equipment end of life and to the Methodology.</p> <p>Expanding the criteria for destruction facilities to any facility that is TEAP compliant allows for greater opportunities for ODS destruction. There are a limited number of destruction facilities in the US and Canada that can facilitate the destruction of ODS at an efficiency of 99.99% or greater and often the destruction of ODS comes with complicated logistics due to the stringent legislation that governs its export. It is, therefore, beneficial for this criterion to be expanded. Should the facility be TEAP compliant, it is expected that the technologies employed be capable of virtually eliminating the ODS and thus, there is no risk of the ODS leaking to atmosphere if not properly destroyed.</p>	
12	Iron Mountain	General	Iron Mountain (NYSE: IRM) is the global leader in innovative storage, lifecycle IT asset and	Acknowledged.

			<p>information management services. We operate more than 1450 facilities in over 60 countries and area long time user of Halon fire suppression gas. As we decommission legacy systems and retire halon, we are concerned about its long term stewardship. We have been working to ensure an economically viable, environmentally responsible end-of-life solution. In 2021 we participated with Tradewater in the first ever project to collect and destroy halons for carbon offset credits.</p> <p>We are particularly supportive of ACR’s decision to allow for the destruction of ODS outside of the United States. There is limited destruction capacity in the US, and it is expensive. International facilities have excess capacity and better rates, enabling additional projects to be developed. In addition we strongly support ACR’s decision to provide full credit for the environmental benefit of destroying ODS by eliminating the 10-year crediting period and reductions based upon 10-year emission rate assumptions and assumed substitute refrigerant emissions. ACR is correct to assume in the Revised Protocol that 100% of a given container of ODS will eventually emit if not destroyed.</p> <p>Combined, these changes will help make certain that the world’s remaining Halon gas continues to</p>	
--	--	--	--	--

			serve important fire protection functions where it is still needed and provide a strong incentive to ensure that decommissioned gas is collected and destroyed. We believe these changes will be instrumental in preventing hundreds of millions of tons of climate pollution.	
13	A-Gas	Section 6.2.II	<p>In the public comment draft of the methodology version 2.0, the point of origin is defined as follows:</p> <p><b>A.</b> For refrigerant ODS, medical aerosol ODS, solvent ODS, or fire suppressant ODS:</p> <p><b>i.</b> The point of origin for all ODS not recovered from appliances at an equipment de-manufacturing facility is the location of the ODS prior to acquisition by the project proponent.<sup>s</sup></p> <p><b>ii.</b> The point of origin for all ODS recovered from appliances at an equipment de-manufacturing facility is the equipment de-manufacturing facility.</p> <p>We would like to propose a part <b>iii.</b> to include the following: The point of origin for all ODS stored in a stockpile, as of the adoption date of this methodology, is the location of the stockpile.</p>	<p>Section 6.2.II.i is revised as follows:</p> <p><b>i.</b> The point of origin for all ODS not recovered from appliances at an equipment de-manufacturing facility, <b>including ODS stored in stockpile</b>, is the location of the ODS or the ODS stockpile prior to acquisition by the project proponent</p>