ACR 814

Tradewater International – Thailand 1.0

February 17th, 2023

Tradewater LLC

Table of Contents

A.
PROJECT OVERVIEW

A1. PROJECT TITLE

Tradewater International – Thailand 1.0 (hereinafter referred to as "Project").

A2. PROJECT TYPE

Ozone Depleting Substances

A3. PROOF OF PROJECT ELIGIBILITY

The Project is eligible under 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". Additional eligibility requirements as noted in the ACR Standard, Version 7.0 are included below.

Table 1: Eligibility Requirement form the Methodology, sections 2.2.1 and 3

Criterion	Requirement	Proof of Project Eligibility
ODS Material	Only the destruction of eligible ODS refrigerants CFC-11, CFC-12, CFC-13, CFC-113, CFC-114 and CFC-115 are eligible under this Methodology.	The only ODS that will be included for crediting will be eligible refrigerants.
Stockpile Limitation	Any refrigerants obtained from a government stockpile or inventory are eligible only if they are not required to be destroyed or converted.	The refrigerants in this project originate from a government stockpile that is not required to be destroyed or converted.
Location	Project located outside of the United States and its territories.	Destruction occurred at WMS (BPEC), Samut Prakan, Thailand
Additionality	Eligible offsets must be generated by projects that yield additional GHG reductions that exceed any GHG reductions otherwise required by law or regulation or any GHG reductions that would otherwise occur in a conservative business-as-usual.	There is no mandate for the destruction of ODS CFC refrigerant under Customs Supervision in the country of origin (Thailand). In the absence of this project, the ODS refrigerant would have been vented or leaked into the atmosphere under business-as-usual scenarios. The project sources meet all other requirements of the Methodology.
Start Date	Project start date is defined as the date on which the earliest destruction activity of a project commences, documented on a Certificate of Destruction.	The project start date and destruction commencement date are the same date as documented on the included Certificate of Destruction.
Reporting Periods	Reporting period must not exceed 12 consecutive months. Project reporting period begins on the project start date.	Project reporting period begins on the project start date and does not exceed 12 months. This reporting period is provided in the included Monitoring Report.
Crediting Periods	Project crediting period is ten years and begins on the project start date.	Project crediting period begins on the project start date and will be ten years.

		The crediting period is provided in the included Monitoring Report.
Regulatory Compliance	Projects must maintain material regulatory compliance. To do this, a regulatory body/bodies must deem that a project is not out of compliance at any point during a reporting period.	This project maintains regulatory compliance through the entirety of the reporting period.

Table 2: Applicability Requirements from ACR Standard version 7.0, chapter 3 (not already covered in the Methodology).

Criterion	Requirement	Proof of Project Eligibility
Minimum Project Term	The duration of the Minimum Project Term for specific project types is defined in the relevant ACR sector requirements and/or methodology. Project types with no risk of reversal after crediting have no required Minimum Project Term.	There is no risk of reversal for this project, so the minimum project term is not applicable.
Real	GHG reduction and removals shall result from an emission mitigation activity that has been conducted in accordance with an approved ACR methodology and is verifiable. Credits will not be issued on an ex-ante basis.	The GHG reductions occurred after the ODS was destroyed, and prior to the verification process and credit issuance.
Emission or Removal Origin	For projects reducing or removing direct emissions, the following requirement applies: The Project Proponent shall own, have control over, or document that effective control exists over the GHG sources and/or sinks from which the emissions reductions or removals originate.	Tradewater LLC (hereinafter referred to as "Tradewater") is the project proponent and owns the ODS obtained for this project.
Offset Title	Project Proponent shall provide documentation and attestation of undisputed title to all offsets prior to registration, including chain of custody documentation if offsets have ever been sold in the past. Title to offsets shall be clear, unique, and uncontested.	Tradewater has provided documentation of undisputed title to all offsets. Title to offsets is clear, unique, and uncontested. No offsets have been sold in the past.
Additional	Every project shall use either an ACR-approved performance standard and pass a regulatory surplus test, as detailed in the Methodology, or pass a three-pronged test of additionality in which the project must:	The Project fulfills the performance standard set in the Methodology and passes a regulatory surplus test, ensuring that the GHG emission reductions are additional of those that would have occurred in the advance of the Project

	1. Exceed regulatory/legal requirements; 2. Go beyond common practice; and 3. Overcome at least one of three implementation barriers: institutional, financial, or technical.	Activity and under a business-as-usual scenario.
Permanent	For projects with a risk of reversal of GHG removal enhancements, Project Proponents shall assess risk using an ACR-approved risk assessment tool.	There is no risk of reversal of GHG removal enhancements for this project type.
Net of Leakage	ACR requires Project Proponents to address, account for, and mitigate certain types of leakage, according to the relevant sector requirements and methodology conditions. Project Proponents must deduct leakage that reduces the GHG emissions reduction and/or removal benefit of a project in excess of any applicable threshold specified in the methodology.	Leakage is not applicable to this project type.
Independently Validated	ACR requires third-party validation of the GHG Project Plan by an accredited, ACR-approved VVB once during each Crediting Period and prior to issuance of ERTs. Validation can be conducted at the same time and by the same VVB as a full verification; however, the deadline for validation is determined by the methodology being implemented and the project Start Date (see above). Governing documents for validation are the ACR Standard, including sector-specific requirements, the relevant methodology, and the ACR Validation and Verification Standard.	This project is validated and verified by a third-party ACR-approved VVB in accordance with the ACR standard.
Independently Verified	Verification must be conducted by an accredited, ACR-approved VVB prior to any issuance of ERTs and at minimum specified intervals. ACR requires verifiers to provide a reasonable, not limited, level of assurance that the GHG assertion is without material discrepancy. ACR's materiality threshold is ±5%.	This project is validated and verified by a third-party ACR-approved VVB in accordance with the ACR standard.
Community and Environmental Impacts	ACR requires that all projects develop and disclose an impact assessment to ensure compliance with	The Project maintains a net positive impact, as the quantified amount of GHG emissions has been eliminated and

	environmental and community safeguards best practices. Environmental and community impacts should be net positive, and projects must "do no harm" in terms of violating local, national, or international laws or regulations. Project Proponents must identify in the GHG Project Plan community and environmental impacts of their project(s). Projects shall also disclose and describe positive contributions as aligned with applicable sustainable development goals. Projects must describe the safeguard measures in place to avoid, mitigate, or compensate for potential negative impacts, and how such measures will be monitored, managed, and enforced. ACR does not require that a particular process or tool be used for the impact assessment as long as basic requirements defined by ACR are addressed (See Chapter 8). ACR projects can follow internationally recognized approaches such as The World Bank Safeguard Policies, or can be combined with the Climate Community and Biodiversity Alliance (CCBA) Standard or the Social Carbon Standard for the assessment, monitoring, and reporting of environmental and community impacts.	serves as an effort against climate change. Upon careful examination, no negative impacts from the project have been identified. Destruction of ODS refrigerant is highly monitored by the destruction facility, and destruction occurred within all applicable regulatory limits for emissions and local environmental impact.

A4. LOCATION

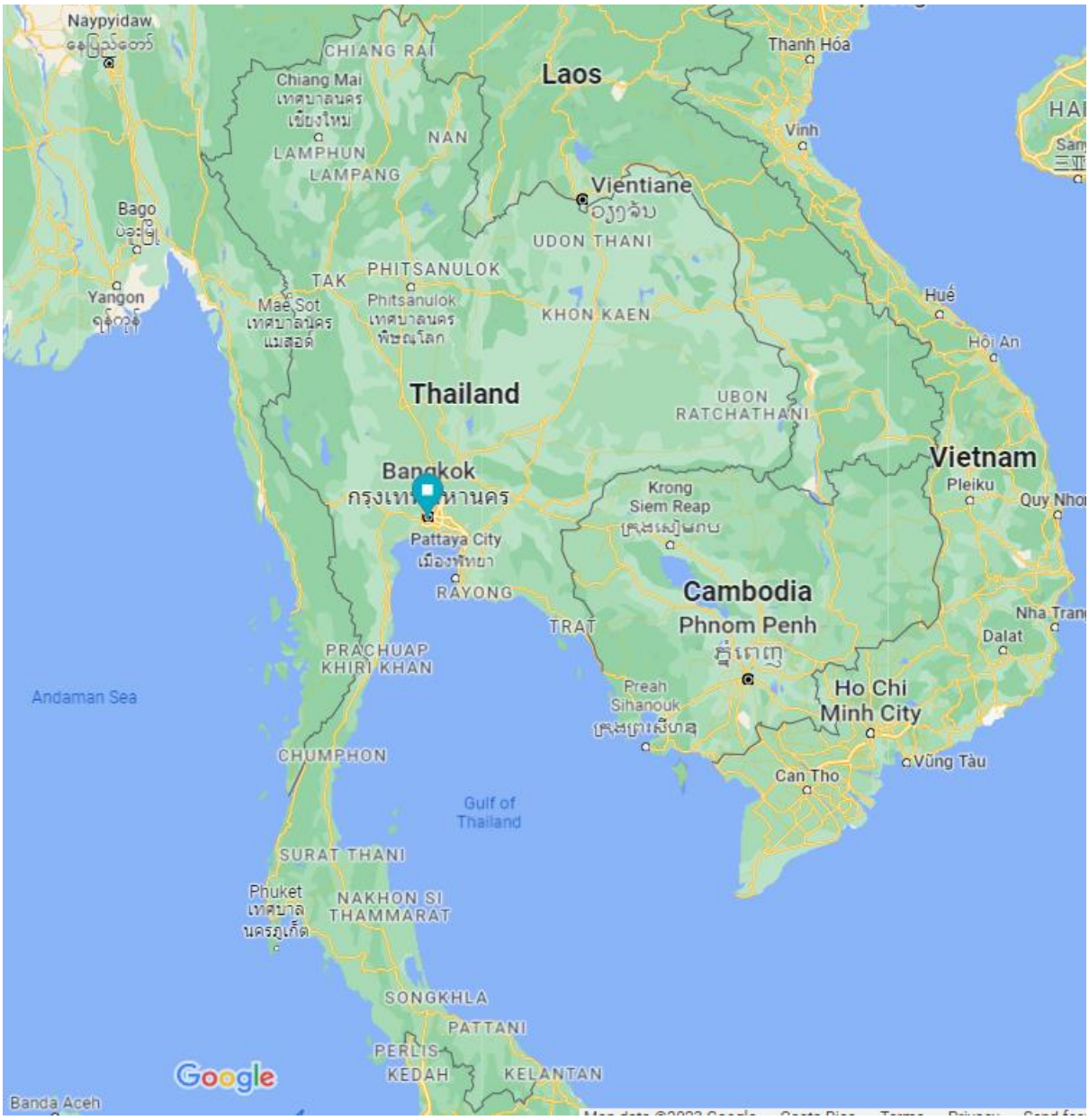
The project location will be Thailand, in that all ODS material will be collected and/or acquired in Thailand. Waste Management Sia LTD (WMS) has custody of the ODS material, which was acquired from the Thai Customs Department, and WMS is also the location of the consolidation activities. The material is also to be destroyed in WMS facilities, located in the Samut Prakan province, in Bangpoo Environmental Complex Col. Ltd (BPEC).

The address and GPS coordinates for the WMS destruction facility are:

965 Moo 2 Soi 3B Bangpoo Industrial Estate, Sukhumvit Rd Bangpoo Mai, Muang Samutprakarn, Samutprakarn 10280 Thailand

Latitude: 13.943

Longitude: 100.5789



A5. BRIEF SUMMARY OF PROJECT

Description of project activity

The project activity is the destruction of eligible ODS refrigerant, specifically CFC-12, which derives from a government stockpile in the custody of Thailand's Customs Department on or before 2007. The Thai government had no mandate to destroy or convert this material but also had no access to funding to dispose of the ODS refrigerant.

The Customs Department transferred ownership of the material to WMS, and established WMS as the party responsible for transporting the refrigerant from the Customs Department facilities to the WMS warehouse for consolidation and later disposal. Upon receipt of the material at the WMS warehouse, WMS transferred ownership of the cylinders, including ownership of any carbon offset credits that result from destruction, to Tradewater. Tradewater's role is to provide financial and logistical support to ensure the material is destroyed following all the Montreal Protocol and ACR requirements.

Under business-as-usual, the ODS refrigerant would remain in storage, as the Customs Department did not have the means to dispose of the material. The stored CFC-12, which is contained in disposable cylinders, will gradually vent over time, through corrosion and deterioration of the cylinders and their risk of venting is mitigated by destruction at WMS, a destruction facility that meets the Montreal Protocol's TEAP standards provided in the *Report of the Task Force on Destruction Technologies*.

Background information

Refrigerants such as R-12 were historically used for industrial refrigeration and in air conditioners for automobiles and trucks since the 1930s. R-12 was fully banned from production under the Montreal Protocol in 2010 because of its adverse impacts on the ozone layer. Although production was banned by the Montreal Protocol, its continued usage was not.

In Thailand, ODS material was stockpiled by the Government, through the Customs Department, over many years, on and before in 2007. These stockpiles of virgin CFC-12 require an end-of-life solution, one of which is destruction. However, there is currently no law, rule or regulation requiring the destruction of ODS when it is in Customs' custody, and no financial or logistical infrastructure to ensure the material is destroyed safely and consistent with the requirements of the Montreal Protocol. As a result, the ODS material in Thailand is released into the atmosphere slowly because it simply remains in stockpiles with no future use.

Project Purpose and Objectives

The purpose of this project is to offset the emissions that would have been released by the stockpiled ODS refrigerants, which would otherwise sit and leak into the atmosphere slowly because it remains in stockpiles with no future use.

A6. PROJECT ACTION

Description of Prior Physical Conditions

In the business-as-usual scenario, ODS refrigerants are stockpiled and stored in various parts of the country, in disposable containers that are not designed to store refrigerant for long periods of time. Under this scenario, ODS refrigerant will leak into the atmosphere, because the containers in which they are held degrade or slowly leak.

Description of how the Project will Achieve GHG Reductions

This project achieves emission reductions through the destruction of ODS refrigerant, instead of holding it in containers at risk of eventual leakage or release. This Project measures the amount of assumed emissions if the ODS were vented under business-as-usual scenario against the emissions prevented by the destruction of the same material. Plainly, destruction yields significantly lower net emissions than the business-as-usual scenario.

Description of Project Technologies, Products, Services, and Expected Level of Activity

After the ODS refrigerant stockpiles were transferred to Tradewater's ownership, the disposable cylinders were counted, weighed, and consolidated into an ISO tank in a WMS warehouse located in Samut Prakan, Thailand, and from there, the ISO tank was transported to the WMS destruction facility and destroyed.

As part of the monitoring activities, the destruction facility monitors and registers the relevant parameters in their CEMs data system in real time and these are collected every minute. Pressure and flow rate are monitored continuously on a separate stage of the furnace for gaseous substances such as ODS and collected every half hour.

The samples were taken by trained WMS technicians at the WMS warehouse, where the inventory and filling activities took place, and while the ODS was in the possession of WMS, the company that destroyed the material The sample was sent to a third-party qualified laboratory for its analysis.

A7. *EX ANTE* OFFSET PROJECTION

The ex-ante offset projection is not applicable to this methodology, as emissions reductions are calculated for the 10-year crediting period in the first reporting period. The total emissions reduction for this reporting period are 192 244 tCO_2e.

Project	Location	Vintage	Total ERTs
Tradewater International – Thailand 1.0	Thailand (Origin and Destruction)	2022	192 244

A8. PARTIES

Table 3: Parties involved in Project				
Entity	***Name***	***Role/Title***	***Contact Info***	***Responsibility***
Tradewater LLC	*María José Gutiérrez Murray*	*Director of International Programs*	*Rohrmoser, Edificio TriBca, 19A, Calle 80, Ave 3, Costa Rica Office: +506 21077344*	*Project Proponent*
Waste Management Siam LTD	*Sutthida Fakkum*	*Senior Compliance & EHS Manager*	*965 Moo 2 Soi 3B Bangpoo Industrial Estate, Sukhumvit Rd Bangpoo Mai, Muang Samut Prakan, Samut Prakan 10280 Thailand Mob. +66 899201042*	*Destruction Facility*

Tradewater LLC – Project Proponent

Tradewater LLC has been in operation since 2016 and is a mission-driven company. Tradewater's aim is to collect and destroy greenhouse gases found around the world while creating economic opportunity. Tradewater as a whole has a goal of eliminating 3 million tons of CO_2 annually.

Waste Management Siam LTD – Destruction Facility

WMS is located in Bangpoo Environmental Complex or BPEC and constructively utilizes factory waste to produce steam and electricity advanced clean air technologies, utilizing a Fluidized Bed Incinerator. WMS is part of the DOWA Holdings CO, LTD.

B.
METHODOLOGY

B1. APPROVED METHODOLOGY

The Project uses the Methodology for the Quantification, Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removal from the Destruction of Ozone Depleting Substances from International Sources Version 1.0 (hereinafter referred to as "Methodology").

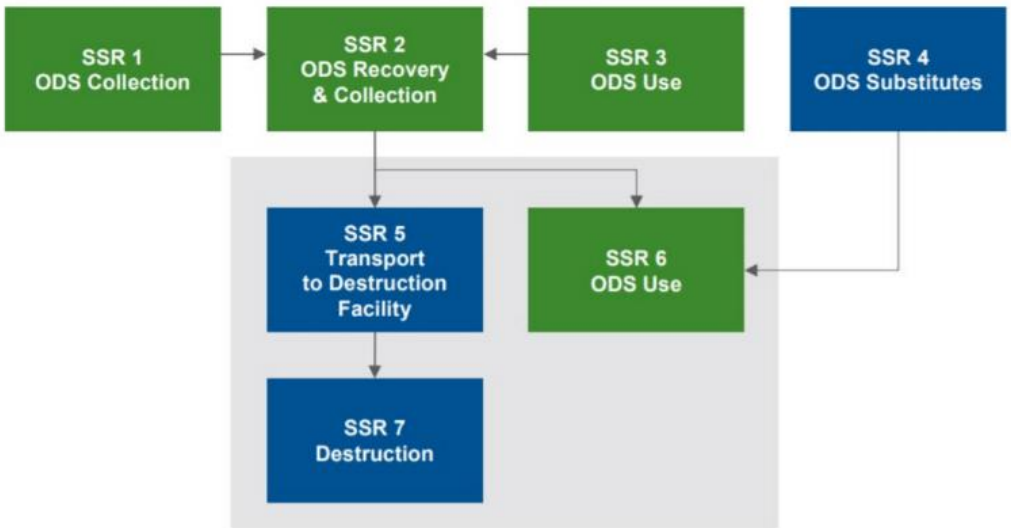
B2. METHODOLOGY JUSTIFICATION

The Project involves the destruction of ODS refrigerant CFC-12. Thailand does not have a law requiring destruction of refrigerants under the Montreal Protocol nor is there a rule or law requiring government stockpiled ODS refrigerants to be destroyed or converted. Because these refrigerants have been phased out worldwide and there are less impactful substitutes, and their production has been banned, their destruction will not trigger any additional CFC refrigerant production. Additionally, the Customs Department has maintained the material in stockpiles since 2007 and neither this Department nor any other related government authority, have been able to deal with the stockpiles because this represents an economic hardship, and there are no funds available to destroy the material.

B3. PROJECT BOUNDARIES

The geographic boundary of the Project is WMS facility, located at 965 Moo 2 Soi 3B Bangpoo Industrial Estate, Sukhumvit Rd Bangpoo Mai, Muang Samutprakarn, Samutprakarn 10280 Thailand. The reporting period is December 17th, 2022 to January 23rd, 2023 and the crediting period December 17th, 2022 to December 16th, 2032.

Additional SSRs within the project boundaries are ODS and Transport to Destruction Facility.



B4. IDENTIFICATION OF GHG SOURCES AND SINKS

Table 4: Greenhouse Gases and Sources (source: Methodology)			
GHG Source, Sink, or Reservoir (SSR)	Source Description	Gas	Quantification Method
Transport to Destruction Facility	Fossil fuel emissions from the vehicular transport of ODS from aggregation point to final destruction facility.	CO_2	$\boldsymbol{Tr\&Dest = (Q_{ODS} \times EF) + (Q_{BA} \times EF) + (Q_{intf} \times EF)}$
ODS Use	Emissions of ODS from use, leaks, and servicing through continued operation of equipment.	ODS	$\boldsymbol{BE_{refr} = \sum_i (Q_{ref,i} \times ER_{refr,i} \times GWP_i}$
ODS Use	Emissions of substitute from use, leaks, and servicing through continued operation of equipment.	CO_2e	$\boldsymbol{Sub_{refr} = \sum_i (Q_{ref,i} \times SE_i}$
Destruction	Emissions of ODS from incomplete destruction at destruction facility.	ODS	$\boldsymbol{Tr\&Dest = (Q_{ODS} \times EF) + (Q_{BA} \times EF) + (Q_{intf} \times EF)}$
Destruction	Emissions from the oxidation of carbon contained in destroyed ODS.	CO_2	$\boldsymbol{Tr\&Dest = (Q_{ODS} \times EF) + (Q_{BA} \times EF) + (Q_{intf} \times EF)}$
Destruction	Fossil fuel emissions from the destruction of ODS at destruction facility.	CO_2	$\boldsymbol{Tr\&Dest = (Q_{ODS} \times EF) + (Q_{BA} \times EF) + (Q_{intf} \times EF)}$
Destruction	Indirect emissions from the use of grid-delivered electricity.	CO_2	$\boldsymbol{Tr\&Dest = (Q_{ODS} \times EF) + (Q_{BA} \times EF) + (Q_{intf} \times EF)}$

B5. BASELINE

The baseline scenario selected for the project related to ODS refrigerant, in which the following emissions rates are assumed under business-as-usual:

Table 5 Parameters for ODS Refrigerants (source: Methodology, Appendix A)		
ODS	10-year cumulative emission rate (%/10 years)	100 years global warming potential (MT CO_2E/MT ODS)
CFC-11	89%	4750
CFC-12	95%	10900
CFC-13	61%	14400
CFC-113	89%	6130
CFC-114	78%	10000
CFC-115	61%	7370

In this Project, the CFC-12 material was originally stored in various parts of Thailand under Customs Department custody and supervision. It was transferred to Tradewater through WMS, and finally destroyed at WMS, a local destruction facility. WMS was in charge of the movement of the material from the Customs storage locations to the WMS warehouse at Samut Prakan. As explained below in the "Regulatory Surplus" section, there is no mandate to destroy the ODS refrigerant in the government stockpile

All the ODS sat in deteriorating cylinders with no alternative use. All of these circumstances assure that the ODS without particular use would remain in storage, where it risked leaking, and being released into the atmosphere slowly from the deterioration of the containers.

B6. PROJECT SCENARIO

The project scenario is the destruction of CFC-12 which otherwise would remain in storage indefinitely until a management option could be financed

The project abides with all applicable rules and regulations. The ODS refrigerant in this particular case is subject to the Customs Act, which grants the Customs Department broad authority to manage seized materials as a "national item." For this reason, the arrangement between the Customs Department and WMS required that the Customs Department supervise the transportation of the ODS refrigerant to WMS, the storage of the ODS refrigerant at WMS, the filling of the ODS refrigerant, and the destruction process.

The ODS is destroyed in compliance with all the applicable laws and regulations as well. This includes environmental and health and safety regulations that apply to the WMS facility.

B7. REDUCTIONS AND ENHANCED REMOVALS

Through this project, greenhouse gas reductions are achieved by preventing the inevitable release of the refrigerant ODS into the atmosphere – either through leakage from degrading systems and storage, or from accidental venting during the movement of the cylinders. The reductions are calculated by baseline emissions minus the project emissions.

B8. PERMANENCE

There is no risk of reversal for this project offsets, as once destroyed the associated GHG reductions are fixed.

C.
ADDITIONALITY

C1. REGULATORY SURPLUS TEST

In order to pass the regulatory surplus test, a project must not be mandated by existing laws, regulations, statutes, legal rulings, or other regulatory frameworks in effect as of the start date that directly or indirectly affect the credited offsets.

The ODS refrigerant destroyed in this project is considered a "national item" under Customs Law because it was seized and stockpiled by the Customs Department. As such, it is exempt from other Thai regulations, including the Hazardous Substance Act B.E. 2535, which provides in Clause 15 that a specific law, like the Customs Law, takes precedence over the more general law.

The lack of a mandate to destroy a "national item" was confirmed in a letter, dated 18th August 2022, addressed from the Director of Investigation and Suppression Bureau from the Customs Department to the President of WMS, with the subject of "Delivery of ODS under the supervision of Thai Customs to destroy at BPEC" (document available upon request). The letter states the following:

> "Thai Customs consulted with the Department of Industrial Works (DIW), and it is confirmed that Thai Customs can deal with the confiscated ODS by applying the regulations of Customs. And, as per the Regulations of the Customs Department on Criteria, Methods, and Conditions of Distribution of the Confiscated Goods, there is no mandate on destruction of confiscated ODS."

In conclusion, neither the Customs Act, nor any other existing laws, regulations, statutes, legal rulings, or other regulatory frameworks in effect as of October 5, 2022, requires the destruction of the ODS refrigerant in this project. Therefore, the project passes the regulatory surplus test.

C2. COMMON PRACTICE TEST

Not applicable.

C3. IMPLEMENTATION BARRIERS TEST

Not applicable.

C4. PERFORMANCE STANDARD TEST

Refrigerant ODS in a business-as-usual scenario is used only when the existing systems are old enough to still process this type of refrigerant. When this is not the case, ODS refrigerant is either stored in their original disposable containers or in larger containers for possible use or recovered from existing systems in the process of decommissioning or retrofitting, thereby requiring an end-of-life solution. Additionally, the material for this project was seized by Customs Department on or before 2007, and therefore it cannot be used and was stuck in a stockpile because Thailand did not mandate its destruction, nor did it possess financing to destroy the material. All ODS sources for this project came from Thailand, and were destroyed

in a destruction facility that meets the Montreal Protocol's TEAP standards provided in the *Report of the Task Force on Destruction Technologies.*

The GWP of CFC-12 is above, in Table 5. The GHG emissions generated by the project are significantly less than the business-as-usual scenario for all refrigerant types, and the emissions reductions are greater than those in the baseline scenario.

The CFC ODS sourced for this project, along with the project activities, meet the eligibility requirements:

- This material would otherwise eventually be vented into the atmosphere in the business-as-usual scenario.
- The material was destroyed via an eligible destruction facility.
- Point of Origin and Chain of Custody for this material is outlined in the supporting documents, located in the folder Chain of Custody.
- Tradewater has monitored the applicable SSRs within the project boundary.
- The emissions have been quantified aligned with Chapter 5 of the Methodology, as indicated in section E, and shown in the Project Assertion Spreadsheet.

D.
MONITORING PLAN

D1. MONITORED DATA AND PARAMETERS

Data or Parameter Monitored	Legal Requirement Test
Unit of Measurement	N/A
Description	Emissions reductions achieved through this project and methodology must not be required by any existing law or regulation
Data Source	Thailand Customs Department and The National Ozone Protection Division from the Department of Industrial Works (DIW)
Measurement Methodology	N/A
Data Uncertainty	Low
Monitoring Frequency	Once per project
Reporting Procedure	Review of existing laws around ODS refrigerant management
QA/QC Procedure	Regular review of current laws and regulations surrounding ODS refrigerants, particularly CFCs.
Notes	

Data or Parameter Monitored	Mass of ODS mixture in each container
Unit of Measurement	Kilograms
Description	The total quantity of ODS refrigerant in a container.
Data Source	Manual weight tickets taken pre and post destruction for each individual container
Measurement Methodology	Section 5.1 of Methodology
Data Uncertainty	Low
Monitoring Frequency	Once per project
Reporting Procedure	Gross weight of cylinders using calibrated scale, taken before and after destruction
QA/QC Procedure	Scale calibrations, CEMs data confirms destruction parameter throughout process
Notes	

Data or Parameter Monitored	Concentration of ODS mixture in each container
Unit of Measurement	Percent
Description	The distribution of ODS refrigerant in each container (along with any other contaminants, moisture, or HBR)
Data Source	Sample data via lab analysis provided by an ISO 17025 certified third-party laboratory.
Measurement Methodology	Appendix C of Methodology
Data Uncertainty	Low

Monitoring Frequency	Once per project
Reporting Procedure	Lab analysis report
QA/QC Procedure	Composition and concentration are analyzed at an ISO 17025-certified laboratory that is not affiliated with the project proponent using the AHRI Standard 700.
Notes	

Data or Parameter Monitored	$Q_{refr,i}$
Unit of Measurement	MT
Description	The total weight of ODS refrigerant sent for destruction (baseline).
Data Source	Weight tickets taken both pre- and post-destruction coupled with lab analysis
Measurement Methodology	Section 5.1 of Methodology
Data Uncertainty	Low
Monitoring Frequency	Once per project
Reporting Procedure	Net weight of cylinders using calibrated scale
QA/QC Procedure	Scale calibrations; CEMs data confirms destruction; lab analysis confirms mass percentage and identification of ODS refrigerant
Notes	

Data or Parameter Monitored	Q_{ODS}
Unit of Measurement	MT
Description	The total quantity of ODS refrigerant sent for destruction (project).
Data Source	Weight tickets taken both pre- and post-destruction coupled with lab analysis and quantifications
Measurement Methodology	Section 5.2 of Methodology
Data Uncertainty	Low
Monitoring Frequency	Once per project
Reporting Procedure	Net weight of cylinders using calibrated scale; lab analysis
QA/QC Procedure	Scale calibrations performed CEMs data confirms destruction; lab analysis confirms mass percentage and identification of ODS refrigerant
Notes	

E.
QUANTIFICATION

E1. BASELINE

The baseline emissions are approximately 206 044 tCO_2eq: For details, please see the Project Assertion Emissions document.

$$BE_{refr} = \sum_i (Q_{ref,i} \times ER_{refr,i} \times GWP_i$$

Where		Units
BE_{refr}	Total quantity of refrigerant project baseline emissions during the reporting period	MT CO_2e
$Q_{ref,i}$	Total quantity of refrigerant ODS sent for destruction by the offset project	MT ODS
$ER_{refr,i}$	10-year cumulative emission rate of refrigerant ODS	%
GWP_i	Global warming potential of ODS	MT CO_2e / MT ODS

E2. PROJECT SCENARIO

The project emissions are approximately 13 799 tCO_2eq: For details, please see the Project Assertion Emissions document.

Total Project Emissions

$$PE_t = Sub_{refr} + Tr\&Dest$$

Where		Units
PE_T	Total quantity of project emissions during the reporting period	MT CO_2e
Sub_{refr}	Total GHG emissions from substitute refrigerant	MT CO_2e
$Tr\&Dest$	Total GHG emissions from transportation and destruction of ODS	MT CO_2e

Project Emissions from the Use of Non-ODS Refrigerants

$$Sub_{refr} = \sum_i (Q_{ref,i} \times SE_i)$$

Where		Units
Sub_{refr}	Total quantity of refrigerant substitute emissions	MT CO_2e
$Q_{ref,i}$	Total quantity of refrigerant i sent for destruction	MT ODS
SE_i	Emission factor for substitute(s) for refrigerant i, per Table 3	MT CO_2e/ MT ODS destroyed

Project emissions from Transportation and Destruction using the Default Emissions Factors

$$\boldsymbol{Tr\&Dest} = (\boldsymbol{Q_{ODS}} \times \boldsymbol{EF})$$

Where		Units
$\boldsymbol{Tr\&Dest}$	Total GHG emissions from ODS transportation and destruction, as calculated using default emissions factors.	MT CO_2e
$\boldsymbol{Q_{ODS}}$	Total quantity of ODS sent for destruction in project.	MT ODS
$\boldsymbol{EF}$	Default emission factor for transportation and destruction of ODS (7.5)	MT CO_2e/ MT ODS

E3. LEAKAGE

As defined by the ACR Standard V 7.0, leakage is a term that refers to secondary effects where the GHG emissions reductions of a project may be negated by shifts in market activity or shifts in materials, infrastructure, or physical assets associated with the project. Projects involving the destruction of CFC refrigerant would not encourage the increase of CFC production. Therefore, for this Methodology, "leakage" is not applicable.

E4. UNCERTAINTY

Calculating uncertainty is not applicable because the methodology as written does not require statistical sampling, nor is it a requirement within the quantifications.

E5. REDUCTIONS AND REMOVAL ENHANCEMENTS

The emission reductions are approximately 192 244 tCO_2eq. The project emissions are quantified using the below equation indicated in the Methodology, and further details are available in the Project Assertion Emissions document.

$$\boldsymbol{ER_t} = \boldsymbol{BE_t} - \boldsymbol{PE_t}$$

Where		Units
$\boldsymbol{ER_t}$	Total quantity of GHG emission reduction the reporting period	MT CO_2e
$\boldsymbol{BE_t}$	Total quantity of project baseline emissions during the reporting period	MT CO_2e
$\boldsymbol{PE_t}$	Total quantity of project emissions during the reporting period	MT CO_2e

E6. EX-ANTE ESTIMATION METHODS

Ex-ante estimation methods are not applicable to this methodology, as the emissions reductions for the 10-year crediting period are determined in the first reporting period.

F.
COMMUNITY & ENVIRONMENTAL IMPACTS

F1. NET POSITIVE IMPACTS

Tradewater is unaware of any potential negative environmental or socio-economic impacts from this Project. Thailand is part of the Montreal Protocol since 1993 and has been eliminating substances that affect the ozone layer in recent years. Since there is currently no financial and logistical structure to responsibly manage and destroy ODS in Thailand, Tradewater Project activities bring a solution to this problem.

The net positive impacts from the project include the reduction of inevitable emissions of CFC refrigerants in storage via leaks, testing, and accidental venting, or from container degradation. This destruction encourages the transition to safe and effective refrigerant activities, and it will not trigger any additional production because of the complete phase-out of CFCs worldwide. This further encourages innovation within development of more sustainable refrigeration and cooling technologies, as well as encouraging the entire sector to develop technologies that are more responsible and aligned with climate goals. Finally, the emissions reductions resulting from this project help to achieve climate goals by eliminating additional contributors to climate change and global warming.

SDG statement

The Project supports United Nations sustainable development goals (SDG) 1 (No Poverty), 12 (Responsible Consumption and Production), and 13 (Climate Action).

- SDG1: The Project contributes to the local economic development in Thailand. Tradewater's aggregation approach to identifying and collecting ODS fosters and implies participation of various. Tradewater finances local partners to handle the ODS material that they have identified and collected, as well as partners who transport the ODS material within Thailand, creating job opportunities at the local level.
- SDG 12: The Project supports the collection and destruction of one of the most powerful greenhouse gases in the world; paving the way to the development and use of safer and more environmentally friendly alternatives.
- SDG 13: The phase-out to date of most ODS has not only led to the regeneration of the ozone layer but also to significant reductions in greenhouse gas emissions (GHG), as most ODS are also powerful GHGs. Tradewater has the objective to prevent the release of ODS gases into the atmosphere. By identifying, collecting, managing, and destroying refrigerant gases in an appropriate manner, Tradewater aims to prevent ozone depletion, negative environmental impacts, and climate change

F2. STAKEHOLDER COMMENTS

Stakeholders as defined by the ACR Standard is not applicable to this Methodology.

G.
OWNERSHIP AND TITLE

G1. PROOF OF TITLE

Tradewater LLC is the Project Proponent. Tradewater LLC possesses the title and rights to all refrigerants destroyed under this Project, which is demonstrated by the transfer of ownership documentation and all the support documentation or other similar documentation. As such, the rights and title to all carbon offset credits created by this Project belong to Tradewater LLC.

G2. CHAIN OF CUSTODY

The offsets have not been bought or sold previously, and the project does not have a forward option contract.

G3. PRIOR APPLICATION

The project has not applied to any other Voluntary Carbon program.

H.
PROJECT TIMELINE

H1. START DATE

The Project start date is December 17th, the date on which the earliest destruction activity of the project commenced. The Project start date determination is consistent with the ACR Standard and Methodology.

H2. PROJECT TIMELINE

Relevant Project Activities	Timeline
Project Listed/Initiation of Project Activities	September 15th , 2022
Project Term	N/A
Crediting Period	December 17th, 2022 – December 16th , 2032
Reporting Period	December 17th, 2022- January 23rd, 2023
Frequency of Monitoring, Reporting, and Verification	Once per reporting period