



**California Air Pollution Control Officers
Association**

Greenhouse Gas Reduction Exchange

Appendix D

CAPCOA GHG Rx Quality Criteria:

**Protocol for Case by Case GHG Emission
Reductions**

&

Criteria for Evaluation of New Protocols

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Table of Contents

INTRODUCTION	1
A. OVERVIEW	3
A1. PROJECT PROPONENT AND LOCATION OF EMISSION REDUCTION	4
A2. METHOD OF EMISSION REDUCTION	4
A3. GREENHOUSE GAS EMISSION REDUCTION ELIGIBILITY CRITERIA	4
B. METHODOLOGY.....	9
B1. PROJECT BOUNDARIES AND LEAKAGE.....	10
B2. IDENTIFICATION OF GHG SOURCES AND SINKS.....	10
B3. BASELINE	10
B4. PROJECT SCENARIO	10
B5. REDUCTIONS AND ENHANCED REMOVALS	10
B6. FUTURE PROJECTS	11
B7. PERMANENCE	11
C. MONITORING.....	12
C1. EMISSION REDUCTION MONITORING	13
C2. MONITORED DATA AND PARAMETERS	13
D. PROJECT TIMELINE	<u>1414</u>
D1. START DATE	<u>1515</u>
D2. PROJECT TIMELINE	<u>1515</u>

INTRODUCTION

Purpose of the Exchange

The California Air Pollution Control Officers Association (CAPCOA) has established the Greenhouse Gas (GHG) Reduction Exchange (Exchange) to support the creation and exchange of high quality, locally generated GHG emission reduction credits. Essentially, credits are created when projects or practices are implemented specifically to reduce GHG emissions that are not required by law or other mechanisms to reduce emissions, and the resulting reductions are validated by CAPCOA members. The GHG emission reductions, or credits, that meet the criteria and methodology described below, could be used as a source of mitigation for land use or other projects subject to the California Environmental Quality Act (CEQA) or for other GHG mitigation needs.

The Exchange accommodates two primary types of GHG credits:

- 1) those that are created according to an approved protocol based on reductions from a specific type of GHG emission source, and
- 2) those that are created according to this *Protocol for Case by Case Emission Reductions*, and are enforceable via:
 - an air district permit , or
 - another mechanism, such as an enforceable CEQA mitigation requirement

Reductions that fit the first type are generally subject to an annual validation process, which assures that a specific quantity of reductions did occur during the past year (vintage). These verified reductions are then listed as verified on the Exchange for that vintage, and are generally available for mitigation or other market purposes.

Reductions fitting the second type are generally found during the analysis of the reduction to be enforceable for a given period, for instance, via adequate conditions of approval contained in, and enforceable through, an air district Permit to Operate. These credits are not subject to annual validation, but are enforced on an ongoing basis via air district enforcement of those conditions.

For transparency purposes, CAPCOA will post the relevant protocol or other ERC evaluation documentation with each credit listed on the Exchange.

High Quality Credits

The Exchange will only list GHG emission reduction credits that have been created in accordance with CAPCOA-approved criteria and methodology that defines the following overarching principles that the GHG emission reductions must be:

- Real
- Additional/Surplus
- Quantifiable
- Validated
- Enforceable
- Permanent

This document provides guidance on the requirements that must be met for anyone wanting to implement projects or practices to reduce or sequester GHG emissions and list those GHG reduction credits on the CAPCOA Exchange. The GHG reduction projects or practices must have been implemented and the actions creating the reductions must have already occurred, or been committed to, in order to list the credits on the Exchange. The requirements listed in this document apply to the development of protocols that would be used to approve individual GHG reduction projects, such as: the Climate Action Registry's Urban Forestry Protocol; the approval of GHG reduction projects that are subject to air district permits, such as energy efficient boilers; or GHG reduction projects that are enforceable through some other mechanism, such as energy efficiency upgrades that are additional at existing residential or commercial properties and are enforceable through a CEQA mitigation requirement. Only GHG emission reductions that meet all of the criteria listed below qualify for listing on the CAPCOA GHG Reduction Exchange. Air district staff within the respective air basin where the credits are created will review the applicant's GHG reduction analysis to determine if they meet the overarching principals for high quality credits.

How to Use this Document

This document is intended for use by anyone proposing to submit GHG emission reduction credits to the CAPCOA Exchange, or to submit a GHG emission reduction protocol to CAPCOA for consideration for use by the Exchange. In either case, the proponent must supply adequate information to clearly demonstrate how all the eligibility criteria and other requirements set forth in this document have been met. Air district staff will review only the information submitted to determine if a proposed protocol or project meets CAPCOA's definition of high quality GHG emission reduction credits.

A.
OVERVIEW

A1. PROJECT PROPONENT AND LOCATION OF EMISSION REDUCTION

The project proponent must provide full contact information, roles and responsibilities of specific individuals, other significant project participants, relevant regulator(s) and/or administrators of any greenhouse gas (GHG) program(s) in which the project is already enrolled, and any entities holding credit and land title (if applicable).

Emission reductions must have occurred within California. Note that for emission reductions due to electrical efficiency projects that otherwise meet all eligibility criteria, only the efficiency project must have occurred within California. It is not necessary to validate that the resulting decrease in electricity generation occurred in California as well.

A2. METHOD OF EMISSION REDUCTION

Protocols specific to a particular type of project must define the type of emission reduction project for which the protocol is applicable. Such applicability criteria must be sufficiently restrictive such that eligible projects are consistent with the assumptions used in developing the protocol.

This protocol for case by case emission reduction projects requires that a detailed description of the actions taken that generated the emission reduction along with the date that such emission reductions occurred must be provided by the applicant.

The following items must be provided by the applicant:

- *Project purpose(s) and objective(s)*
- *Description of project activity*
- *Description of how the project will achieve GHG reductions and/or removals (sequestration)*
- *Description of how the project will comply with each of the emission reduction eligibility criteria detailed below.*

A3. GREENHOUSE GAS EMISSION REDUCTION ELIGIBILITY CRITERIA

The CAPCOA GHG Reduction Exchange will only recognize GHG emission reduction credits of the highest quality. The discussion below defines criteria and provides guidance when proposing new protocols, and serves as the protocol for case by case emission reduction projects. Drawing from current widely-accepted best practices, the CAPCOA Exchange will only accept GHG emission reduction credits that are real, additional/surplus, quantifiable, validated, enforceable and permanent. Greenhouse gas emission reductions that meet the criteria listed below could be acceptable by CAPCOA and eligible for listing in the Exchange.

The following criteria are applicable to new protocols approved by CAPCOA and, along with the rest of these guidelines, serve as the protocol for case by case emission reductions. Proponents of either protocols or projects must clearly demonstrate how all these eligibility requirements have been met.

Real

Emission reductions must be determined to be real, i.e. to have actually occurred. A real GHG emission reduction is the result of a project that yields quantifiable and validated GHG emission reductions and/or removals. Only the emission reductions occurring due to the specific action or project are considered. Reductions that have occurred since January 1, 2007, may be considered under this program, provided they meet all other eligibility criteria contained in this document. Reductions that occurred on or after January 1, 2005 may be eligible for credits on the Exchange provided they follow the SJV GHG credit rule and meet all the criteria in this document. Emission reductions that are planned or expected are not eligible for listing on the CAPCOA Exchange as credits, but projected future reductions may be included for informational purposes. However, once such an emission reduction does occur, it may be eligible for inclusion in the Exchange.

New protocols must include criteria that will ensure that the type of project covered by that protocol will result in a real emission reduction. The emission reduction must have actually occurred due to the specific actions taken by an applicant.

This protocol for case by case emission reduction projects requires that the reviewing air district determine, based on the information submitted, that the emission reduction claimed to have occurred from a particular device, process or practice due to actions taken by the applicant did in fact actually occur. For instance, enforceable permit conditions or CEQA mitigation requirements can be used to assure that reductions have occurred.

Additional/Surplus

Emission reductions must be determined to be additional and surplus. Projects must have occurred after January 1, 2007 unless a CAPCOA approved protocol allows an earlier date. In no circumstances can any project be given credits for reductions occurring prior to January 1, 2005.

For an emission reduction to be additional and surplus of all requirements it must pass two tests – a regulatory surplus test and a fiscal test.

Regulatory surplus test

To be additional and surplus, an emission reduction must not be due to an action that is required by a law, rule, or other requirement. A project passes the legal requirement test when there are no laws, statutes, regulations, court orders, environmental mitigation agreements, permitting conditions or other legally binding mandates requiring its implementation, or requiring the implementation of similar measures that would achieve equivalent levels of GHG emission reductions.

An emission reduction that is in excess of what is required by any and all rules or laws would be considered additional and surplus of all requirements and therefore eligible as a credit. An emission reduction that is in excess of that which is required by any and all GHG rules or laws would be considered additional and surplus of all GHG requirements and therefore eligible as a credit, but this credit should be noted or conditioned as “additional and surplus of all GHG requirements.” This distinction is important

because some approaches for addressing GHG impacts under CEQA allow for the use, as mitigation, of GHG reductions that are additional and surplus to GHG regulations, and therefore either type of credit discussed above can be used for mitigation. GHG reductions that occur concurrently with an action that is required by a rule not directed at reducing GHGs may be additional and surplus of all requirements for the amount of reductions that are due to over-compliance with the regulatory requirement.

Finally, reductions that occur at facilities covered by California's cap and trade regulation after the regulation goes into effect are not eligible as credits, as all such reductions would be used in meeting part of the facility's compliance obligations under the cap and trade program, and are therefore not additional and surplus of the cap and trade program.

For the purposes of this section, covered entities (facilities) are stationary sources determined pursuant to the Cap-and-Trade Regulation sections 95811 and 95812. An updated list is maintained by ARB in their "List of Covered Entities," see

http://www.arb.ca.gov/cc/capandtrade/covered_entities_011013_v2.xlsx.

Fiscal test

To be additional and surplus of all requirements, the action that resulted in the emission reduction would not have likely taken place in the absence of a market for the resulting GHG emission reduction credits or in the anticipation of such a future market for such reductions.

Note: Some GHG emission reduction exchanges also require a third criteria be met, namely that the method of the reduction not be in common use. However, CAPCOA believes that this criterion is unnecessary and undesirable. The critical issues are that the reductions are not required and that they are occurring as a result of the fiscal encouragement of a market (the first two tests). If that market then drives a particular GHG reduction methodology to become common, we fail to see how the methodology is no longer additional and surplus, or how and when one would determine that a methodology becomes "common."

Quantifiable

Emission reductions must be quantifiable through tools or tests that are reliable and give confidence to qualify for emission reduction credits. Quantification of the emission reduction requires establishing a baseline emission level and emission reductions resulting from the project. Emission reductions can be quantified by comparing baseline emissions and actual post-project emissions or by comparing baseline emissions to potential post-project emissions, if the potential post-project emissions are enforceable through a permit or other mechanism

Baseline emissions (the actual emissions representative of normal operation before the emission reduction project) must reflect actual process data and/or practices that are representative of the operation. The potential emissions before the project cannot be used to determine baseline emissions.

Emission estimates must be based on correct, applicable methodologies, such as appropriate emission factors and source tests methods that are conducted properly and reviewed by trained staff. Adequate documentation to validate throughput or other information is also essential.

Validation

Emission reductions must be validated to qualify for emission reduction credits. The action taken to produce credits can be audited and there is sufficient evidence to show that the reduction did occur and was quantified correctly. Validation and enforcement ensure that the respective emission reductions remain real and permanent for a given time period. Sufficient information should be disclosed to allow reviewers and verifiers to make decisions about the credibility and reliability of GHG reduction claims with reasonable confidence.

Emission reductions are quantified and verified on a periodic basis – usually annually, although validation of some credits that are enforceable through other mechanisms (such as a permit enforcing a case-by-case reduction determination) may only have to be verified once, at the time the reductions are originally analyzed. For emission reductions quantified by comparing actual emissions before the project to actual emissions after the project, emission reductions that actually occurred during the previous period are quantified. This requires a comparison of actual emissions without the project compared to actual emissions with the project. These calculations are verified by participating air districts or an approved independent third party approved by CAPCOA to perform such validations. After a successful validation process, emission reduction credits are issued for that past period. Validation includes the review of documentation, monitoring data and procedures used to estimate GHG reductions.

Enforceable

There must be an enforceable mechanism in place to ensure that the action is, or was, implemented correctly, such as a permit condition or contractual agreement. In cases where the emission reduction is based on the difference between pre-project actual emissions and post-project potential emissions, the post-project potential emissions must be made enforceable by the entity issuing the emission reduction credits. Enforcement mechanisms can include a District issued permit, a local jurisdiction's conditions of approval, or a contract between the project proponent and the lead agency. Such mechanisms would specify design, operational, usage limits, monitoring, and recordkeeping requirements for the project to ensure that the parameters used in quantifying the actual emission reductions are being satisfied on an ongoing basis. Any violation of the permit or contract terms and conditions would be subject to enforcement action by the District or lead agency and could result in credits being revoked.

Permanent

Emission reductions must be permanent to qualify for emission reduction credits. Permanence refers to the longevity of an emission reduction or removal, and the risk of reversal of the action creating the reduction or removal. To be considered permanent, emission reductions or removals must continue to occur for the reasonable expected life of the emission reduction project.

Permanence can be affected by the shift, or “leakage” of emissions from an emission reduction project at one location or process to emission increases at other locations or processes outside the project boundary. Leakage can occur due to a shift in activity away from the emission reduction project to other sources outside the project boundary, resulting in no net reduction in overall emissions.

In making a determination if an emission reduction is permanent, the protocol (or the applicant in a case by case determination) must define the project boundary. The project boundary is the project’s geographical implementation area, the types of GHG sources and sinks involved and the expected duration of the project. Within that project boundary, an evaluation is made to determine if the emission reduction is permanent, i.e. not shifted to other sources of emissions.

Generally, the emission reductions are considered to be permanent within the confines of the project boundary used in establishing the actual emission reductions. The adequacy and sufficiency of the subsequent use of the emission reductions as mitigation for CEQA purposes within that project boundary would be determined by the lead agency.

GHG emission reductions credits that meet all of the above criteria may qualify for listing on the CAPCOA Greenhouse Gas Reduction Exchange.

B.
METHODOLOGY

Quantification should employ rigorous and conservative accounting methods and assumptions for all project types. GHG emission accounting must achieve sufficient accuracy to enable users to make decisions with confidence as to the integrity of the reported information. Quantification of GHG reductions must be conducted within acceptable levels of uncertainty.

Where accuracy is difficult to achieve, quantification should err on the side of being conservative with GHG reduction estimates. Conservative assumptions, values, and procedures should be used to ensure that GHG reductions are not over-estimated. Conservative estimation methods should be used whenever data and assumptions are uncertain and measures to reduce uncertainty would be impractical.

To that end, protocol proposals and case-by-case reduction analyses should address each of the following issues according to the instructions provided.

B1. PROJECT BOUNDARIES AND LEAKAGE

Identify the physical and temporal boundaries of the project. Identify any opportunities for leakage to occur. Describe how leakage is accounted for and quantified. Provide sample calculations wherever possible.

B2. IDENTIFICATION OF GHG SOURCES AND SINKS

Identify the GHG sources and sinks within the project boundaries. If any sources or sinks will be considered de minimis, include a justification. The de minimis threshold is generally defined as 3% of the final calculation of emission reductions or removals, unless some other de minimis threshold is appropriately justified. Detail the GHG quantification methodology for the project scenario including all relevant emissions or removals. Provide sample calculations.

B3. BASELINE

Describe the baseline scenario, how the baseline was identified and chosen, and why it is the most appropriate baseline for the project. If the underlying protocol does not specify what years can be chosen for the baseline, the last 2 years are to be used, unless the air district evaluating the credits agrees that another 2 year consecutive period in the last 5 years is more representative. Address all baseline-related topics required by the Eligibility Criteria in section A3 above. Detail the GHG quantification methodology for the baseline scenario including all relevant emissions or removals. Provide sample calculations.

B4. PROJECT SCENARIO

Describe the project scenario, including the project actions that will take place and any additional information required by the Eligibility Criteria in section A3 above.

B5. REDUCTIONS AND ENHANCED REMOVALS

Describe how the project reduces GHG emissions or enhances the removal of GHGs from the atmosphere beyond what would have taken place in the baseline scenario. Detail the quantification methodology for identifying net reductions and removal enhancements, taking into account leakage and uncertainty.

Provide sample calculations wherever possible. Describe how uncertainty is accounted for and quantified.

B6. FUTURE PROJECTS

In some cases, a project proponent may propose a future emission reduction activity for the purposes of developing bankable emission reductions at a later time. This protocol could be applied to that future activity and resulting emission reductions could be banked on the Exchange once they are realized and verified.

B7. PERMANENCE

Demonstrate whether the project's GHG reductions face any risk of reversal by identifying any risks that may substantially affect the project's GHG emission reductions or removal enhancements. If the credits do face a risk of reversal, describe what method of permanence assurance will be used.

C.
MONITORING

C1. EMISSION REDUCTION MONITORING

Emission reductions are quantified and verified on a periodic basis – usually annually. For emission reductions quantified by comparing actual emissions before the project to actual emissions after the project, emission reductions that actually occurred during the previous period are quantified. This requires a comparison of actual emissions without the project compared to actual emissions with the project. These calculations are verified by a participating District or an independent third party approved by CAPCOA to provide such validation. After a successful validation process, emission reduction credits are issued for that past period. Validation includes the review of documentation, monitoring data and procedures used to estimate GHG reductions.

C2. MONITORED DATA AND PARAMETERS

List all relevant data and parameters that will be monitored. The table below provides an example of how monitoring data and parameters can be identified. Provide all relevant information, such as that listed in the table below, for as many distinctly monitored types of data/parameters as are included in the project.

Data or parameter monitored: _____

<i>Unit of Measurement</i>	
<i>Description</i>	
<i>Data Source</i>	
<i>Measurement Methodology</i>	
<i>Data Uncertainty</i>	
<i>Monitoring Frequency</i>	
<i>Reporting Procedure</i>	
<i>QA/QC Procedure</i>	
<i>Notes</i>	

D.
PROJECT TIMELINE

D1. START DATE

Provide the project start date - the date upon which the project began/will begin to reduce GHG emissions below its baseline

D2. PROJECT TIMELINE

Provide a timeline for project activities including:

- *Project term – the minimum length of time for which a project proponent commits to project continuance, monitoring and validation*
- *Crediting period – the length of time during which a project can generate creditable emission reductions below its baseline*
- *Frequency of monitoring, reporting and validation or other enforcement mechanism*
- *Target dates for major project activities (milestones)*