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Public Comment Webinar Chile Landfill Protocol

November 12, 2025

Introduction



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Housekeeping

- All attendees are in listen-only mode
- Please submit your questions in the Zoom question box and we'll try to answer them at the end, time permitting
- We will follow up via email to answer any questions not addressed during the meeting
- The slides and a recording of the presentation will be posted online on the Climate Action Reserve webpage
<https://climateactionreserve.org/how/protocols/waste/argentina-landfill/dev/>

AGENDA

- Climate Action Reserve
- Protocol development process/timeline
REMINDER:
 - Submit comments by November 28, 2025
- Chile Landfill Protocol
Key considerations
 - ✓ Project definition
 - ✓ Project ownership
 - ✓ Additionality
 - ✓ Permanence
 - ✓ Quantification
 - ✓ Monitoring / Reporting / Verification
- Next steps

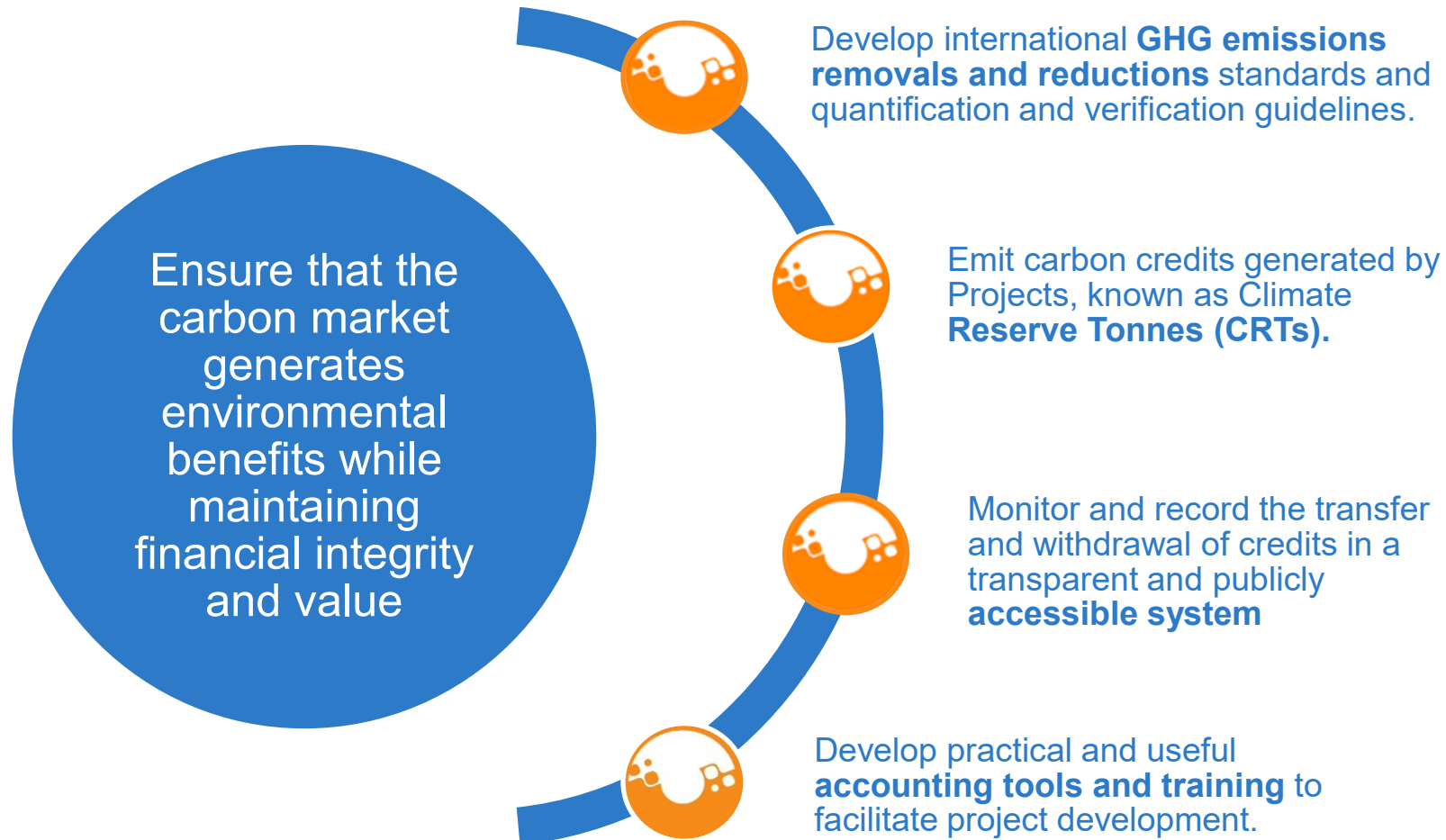


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Mission: *to develop, promote and support innovative, credible market-based climate change solutions that benefit economies, ecosystems and society*

- ✓ **Develop high-quality, stakeholder-driven, standardized** carbon offset project protocols internationally
- ✓ **Registry of carbon credit projects and offset projects** for voluntary and compliance carbon markets. California and Washington (EEUU); Queretaro (Mexico); CORSIA.
- ✓ **High reputation for integrity and experience** in providing best-in-class registry services for offset markets

The Climate Action Reserve



Principles of the Reserve Program

All registered projects and credits issued by the Reserve must be:



ADDITIONAL

Beyond common practices

Beyond regulatory requirements



VERIFIED

Standardized eligibility criteria and quantification methodologies

Independent third-party review.



REAL

Conservative emissions accounting

Prescriptive models and equations

Uncertainty reduction



PERMANENT

Monitoring and reporting processes

Any leakage or loss is quantified and compensated



ENFORCEABLE

Processes to ensure program compliance

Accountability mechanisms

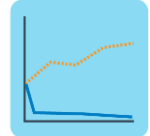
- The Reserve seeks to be practical and ensures that projects do not have negative impacts
- The standards include social and environmental safeguards to ensure the participation and benefit of the participants

GHG Accounting Standardization

Two elements:



Determination of project eligibility and additionality using standardized criteria rather than project-specific assessments.



Quantification of GHG reductions/removals through a baseline established under certain assumptions, emission factors and monitoring methods.

Objectives:

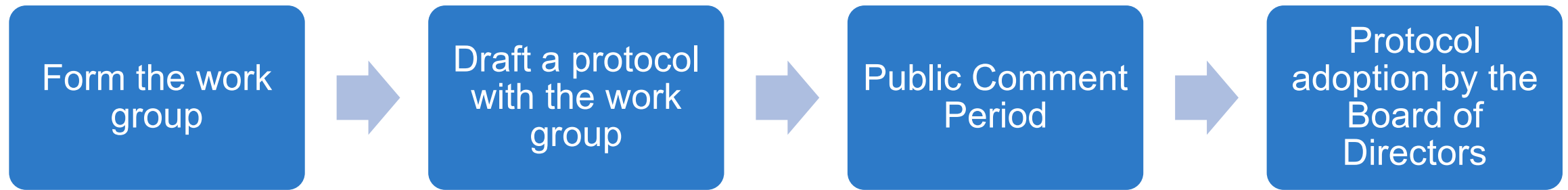


Minimize personal judgment in project assessment



Reduce transaction costs for the project developer, minimize uncertainties for investors, and increase the transparency of the project when it is approved and verified

Rigorous, Inclusive and Transparent Process for the Protocol Development



Inclusive Process: A balanced multi-stakeholder working group is formed with experts of the sector (landfill) and jurisdiction (Argentina), state and federal agencies, environmental organizations, and other stakeholders.

- Stakeholders that are not part of the working group can still participate in the process as “observers”.

Transparent Process: All working group meetings and webinars for the public comment period are recorded and posted on the website along with the drafts

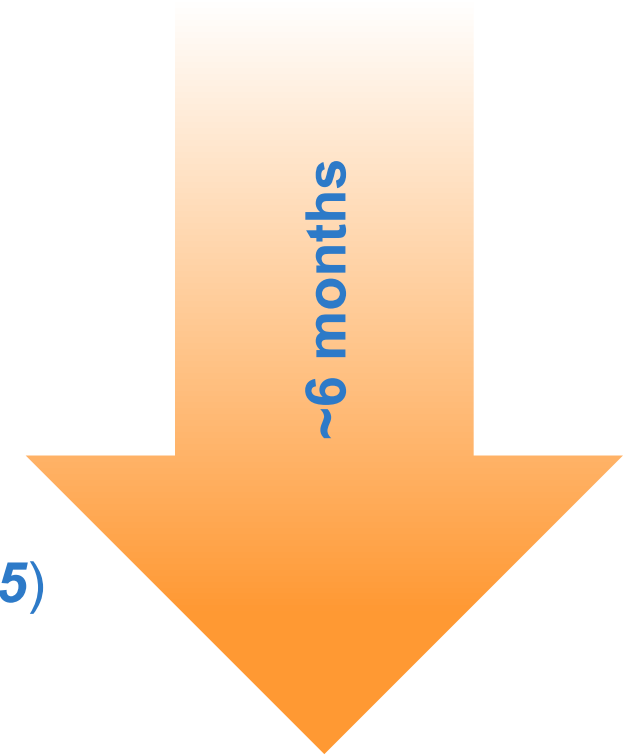


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PROTOCOL DEVELOPMENT PROCESS & TIMELINE

Protocol Development Timeline

1. Kick-off meeting (*July 1 2025*)
2. Workgroup process
 - Formation (*July 2025*)
 - Meeting 1 (*August 6th, 2025*)
 - Meeting 2 (*September 3th, 2025*)
 - Meeting 3 (*September 30th 2025*)
3. 30-day public comment period (October 27 to **November 28, 2025**)
4. Propose to Board adoption (*TBD 2025*)





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KEY CONSIDERATIONS FOR PROTOCOL DEVELOPMENT

Adapting the Landfill Protocol to Chile

- Use the Mexico, Argentina and U.S. Landfill Protocol as a base to facilitate protocol development
 - US and Mexico Landfill Protocols are comprehensive and have over 15 years since publication
 - Worked with MexiCO2 and the Energylab to facilitate the partial financing and technical support of the initial revision
- The main changes include:
 - Evaluated Chile's laws, regulations, and common practice
 - Evaluated need for applicable safeguards
 - Reviewed with Chilean stakeholders

Key considerations for protocol development

- Project definition
- Project ownership
- Additionality
- Quantification
- Monitoring
- Reporting & Verification

Project Definition

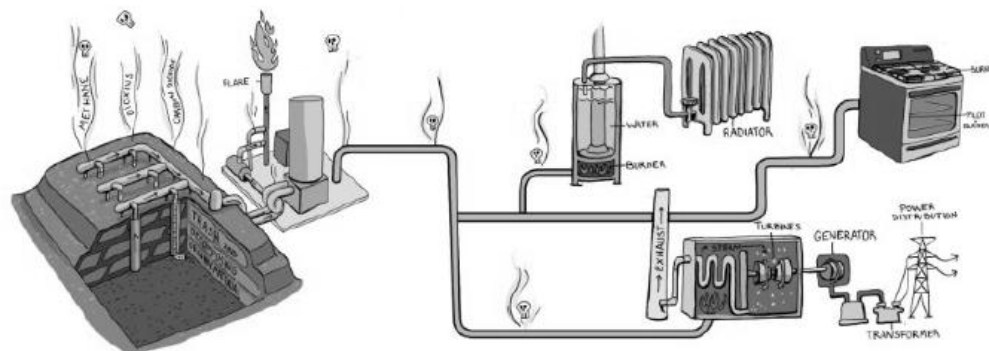
The project consists of **collecting methane gas** from one or more specified cells **in an eligible landfill**, and **destroying said methane** using one or more eligible destruction devices.

- **Expansion of an existing gas collection and control system (GCCS) to a new cell(s)** can be optionally included within existing project or submitted as new project.
- **Captured landfill gas (LFG) may**
 - **be destroyed on site** or
 - **transported for offsite** use. Regardless, The ultimate fate of the LFG must be destruction.
- **Qualified devices includes**
 - utility flares, enclosed flares, engines, turbines, microturbines, boilers, pipelines, leachate evaporators, kilns, sludge dryers, burners, furnaces, or fuel cells.
 - Other devices may be eligible, pending Reserve approval

Project Definition

An eligible landfill is one that:

1. Is not subject to regulations or other legal requirements requiring the destruction of methane gas;
2. Is not a bioreactor, as defined by the U.S. EPA: “a MSW landfill or portion of a MSW landfill where any liquid other than leachate (leachate includes landfill gas condensate) is added in a controlled fashion into the waste mass (often in combination with recirculating leachate) to reach a minimum average moisture content of at least 40 percent by weight to accelerate or enhance the anaerobic (without oxygen) biodegradation of the waste.”; and
3. Does not add any liquid other than leachate into the waste mass in a controlled manner.



Clear Project Ownership

- Project developer is an entity with an active account on the Reserve and is responsible for all project monitoring and verification. Project developers can be:
 - Landfill owners and operators
 - GHG Project financiers,
 - Energy or utility company
 - Or other entities
- Must have clear ownership of the reductions and established through explicit title and must sign the Attestation of Title
 - May be contracts in place between facility owner and project financiers

Eligibility Rules

Rule I: Location

Rule II: Project Start Date

Rule III: Project Crediting Period

Rule IV: Additionality

Rule V: Regulatory Compliance

Eligibility Rules

Chile only



<https://www.theworldatlas.net/es/chile/chile-mapa-fisico.jpg>

Project Start Date

- **No more than 90 days after the LFG is first destroyed by a project destruction device,** regardless of whether there's sufficient monitoring data are available to report reductions
- Projects must be submitted to the Reserve **within 12 months after the project start date**
 - A project is considered “submitted” when the project developer has fully completed and filed the appropriate Project Submittal Form, available on the Reserve's website

Project Crediting Period

- Crediting period is defined as **10 years following the project's start date**
- **Eligible up until** a regulatory body legally requires the landfill to install a GCCS
- **May apply for a renewed crediting period**
 - ✓ Project lifespan:
 Project Start → 10 yrs →  Renewal → 10 yrs →  Renewal → 10 yrs (Max 30 yrs)
 - ✓ Must apply within 6 months of the end of the final reporting period
 - ✓ Must meet the requirements of the newest version of the protocol
 - ✓ Legal landscape and common practice is assessed every renewed listing review

- Must be above and beyond business-as-usual scenarios
 - Must pass two additionality eligibility rules
 1. **Performance Standard Test**
 - Better than business-as-usual
 - Practice-based threshold that focuses on the baseline scenario and changes made in the project scenario
 2. **Legal Requirements Test**
 - Passes when there are no laws, statutes, regulations, court orders, environmental mitigation agreements, permitting conditions, or other legally binding mandates requiring project activities
-  No longer eligible on the date destruction becomes legally required

To ensure additionality of the emission reductions, **projects with baseline destruction will need to take a deduction** related to the amount of methane collected and destroyed in the pre-project scenario A deduction of 5% will also be applied to the quantification of the baseline due to the security requirements in Decree 189/2025.

Performance Standard Test

1. **Installation of a LFG collection system and a new qualifying destruction device** at an eligible landfill where landfill **gas has never been destroyed** prior to the start date.
2. Installation of a **new qualifying destruction device** at an eligible landfill where LFG is **currently collected and vented** but **never destroyed** prior to the start date.
3. Installation of a **new qualifying destruction device** at an eligible landfill where LFG was collected and destroyed prior to the start date using:
 - 3a. A non-qualifying destruction device (e.g., passive flare); o
 - 3b. A destruction device not otherwise eligible (e.g., qualifying device installed prior to the project start date)

Performance Standard Test

4. Installation of a new gas collection system on a physically distinct cell(s) where neither gas collection nor destruction has previously occurred, and connection of this new collection system to an existing LFG destruction system.
 - The landfill cell must be engineered in such a way that landfill gas cannot migrate between that cell and other landfill cells.
 - The new collection system must have its own meter that meets the requirements of the Protocol.
 - There can be more than one project in the same landfill.

Regulatory Compliance

- ✓ Must attest that the project is in compliance with all laws applicable to the project activity
- ✓ Required to disclose any and all instances of legal violations – material or otherwise – caused by the project or project activities
 - ✓ “caused” by Project activities if it can be reasonably argued that a violation would not have occurred in the absence of the project activities
- ✓ If a violation is caused by project activities, credits will not be issued for the period of the violation
 - ✓ Administrative or violations due to “acts of nature” will not impact crediting
 - ✓ Re-occurring violations due to intent or negligence may impact crediting

Social and Environmental Safeguards

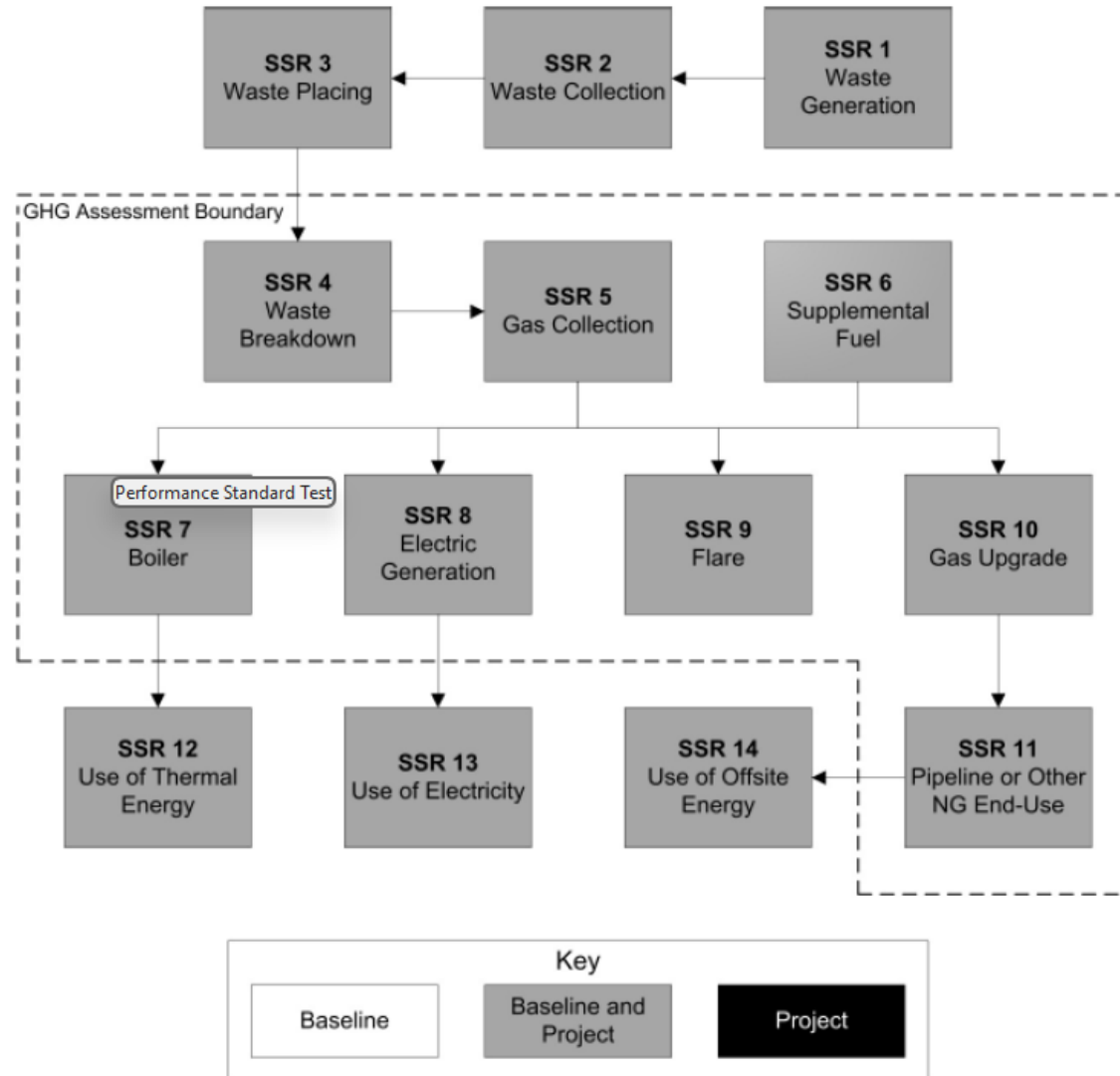
Social Safeguards

- Free, Prior, and Informed Consent (FPIC)
- Ongoing Notification, Participation, and Documentation
- Labor and Safety
- Dispute Resolution

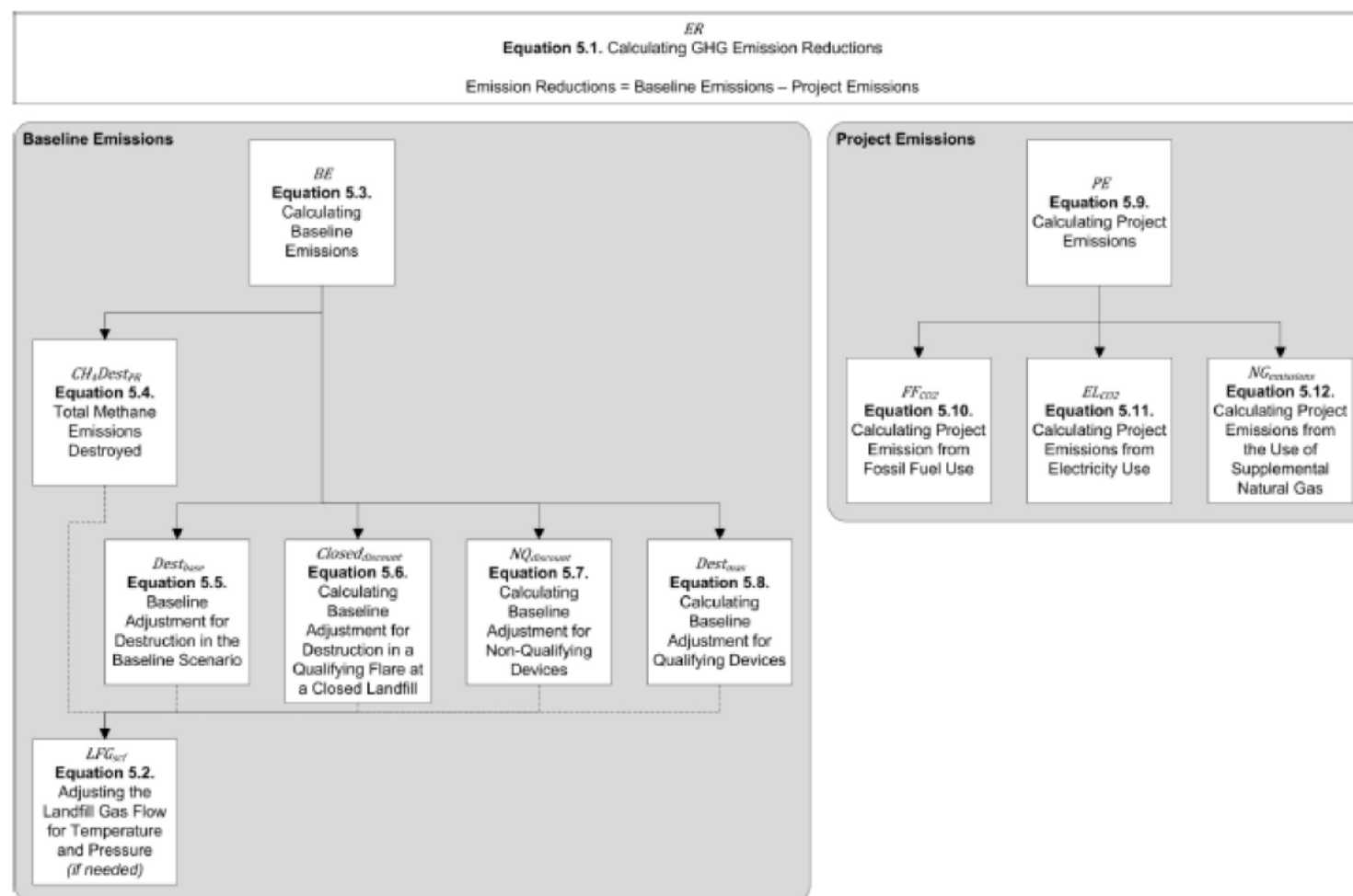
Environmental Safeguards

- Air and Water Quality
- Mitigation of Pollutants

GHG Assessment Boundary



Quantifying GHG Emission Reductions



Project Monitoring

- Must monitor:
 - Flow of LFG delivered to each destruction device
 - Fraction of methane in the LFG delivered to the destruction device
 - Operational status of the destruction device(s)
 - Or presence of safety shut off valve
- Flow data must be corrected for temperature (0°C) and pressure (1atm) either internally or calculated

Instrument QA/QC

- All gas flow meters and continuous analyzers must be:
 - Cleaned and inspected on a regular basis, at a minimum per manufacturer specifications, with activities and results documented by site personnel
 - Field checked for calibration accuracy with percent drift documented at the end of but no more than 2 months prior to the end of the reporting period
 - Calibrated by the manufacturer or a certified calibration service per manufacturer's guidance or every 5 years if not specified by the manufacturer
 - If a flow meter is removed for more than 60 days and is not restarted during the reporting period accuracy must be checked within two months prior to removal, or The meter must be recalibrated before reinstallation.
 - If a portable instrument is used for weekly gas measurements or to validate accuracy, it must be maintained and calibrated according to manufacturer specifications or by an ISO 17025 accredited laboratory.

Reporting Period and Verification Cycle

- Reporting period is a period of time which the project developer quantifies and reports reductions to the reserve
 - Cannot exceed 12 months
- Verification period is a period of time over which reductions are verified
- Initial verification can only cover one reporting period
- There are 3 verification cycle options:
 - 12-month maximum
 - 12-month maximum with desk audit
 - 24-month maximum



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NEXT STEPS

Next steps

- ***For interested stakeholders:***
 - Submit comments (Spanish or English) by **November 28, 2025** to:
cmelendez@climateactionreserve.org
- ***For the Reserve:***
 - Review and respond to comments
 - Finalize protocol based on comments
 - Publish the protocol being presented to the board
 - Present the final protocol to the board for adoption (October 2024)

Key contacts

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Protocol development lead:

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THANK YOU!