



CLIMATE
ACTION
RESERVE

Argentina Livestock Protocol V1.0

Workgroup Meeting 2

May 7, 2024

Introduction



CLIMATE
ACTION
RESERVE



Amy Kessler
Director of Latin America



Claudia Jurado
Analytical Associate, Latin America



Rachel Mooney
Senior Associate

Housekeeping

- Workgroup members have the opportunity to actively participate throughout the meeting
 - Ask that you keep yourselves muted unless / until would like to speak
- We will ask and take questions throughout the session
 - Please use the raise your hand function
- All other attendees/observers are in listen-only mode
- Observers are free to submit questions in the question box
- 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

AGENDA

- Introductions
- Process Overview
- Protocol Considerations and Workgroup Comments
 - Key Takeaways and pending items
 - Project Definition – Eligible livestock categories
 - Assessment Boundary & Quantification
 - Site-specific B_0 value
 - Overview of Livestock Calc Tool
 - MRV
 - Other
- Open Discussion
- Next Steps



CLIMATE
ACTION
RESERVE



CLIMATE
ACTION
RESERVE

INTRODUCTIONS

Workgroup Members

Organization (Alphabetical)	Name
Bret Consultores	Rene Ibarra
Displaced Carbon Committee - Government of Córdoba	Marine Iriart
Ecosecurities	Federico Fritz
Génesis	Laura Garzón
HINS Energía	Javier Slythe
MEXICO2	Yulissa Camacho
Ministry of Infrastructure and Public Services of Córdoba	Pablo Gabutti
Ministry of Bioagroindustry of Córdoba	Catalina Boetto
National Technological University	Ariel Clebañer
National University of La Plata	Guillermo Piovano
Secretariat for Energy Transition - Ministry of Infrastructure and Public Services of Córdoba	Juan Martin Lemos
Secretariat of Energy Planning	Pamela Zanel
Secretariat of Livestock of Cordoba	Martina Solenot
SEGAM – Responsabilidad Ambiental	Marcos Cena
Subsecretary of the Nation's Environment	Agustina Cundari



CLIMATE
ACTION
RESERVE

PROCESS OVERVIEW

Purpose

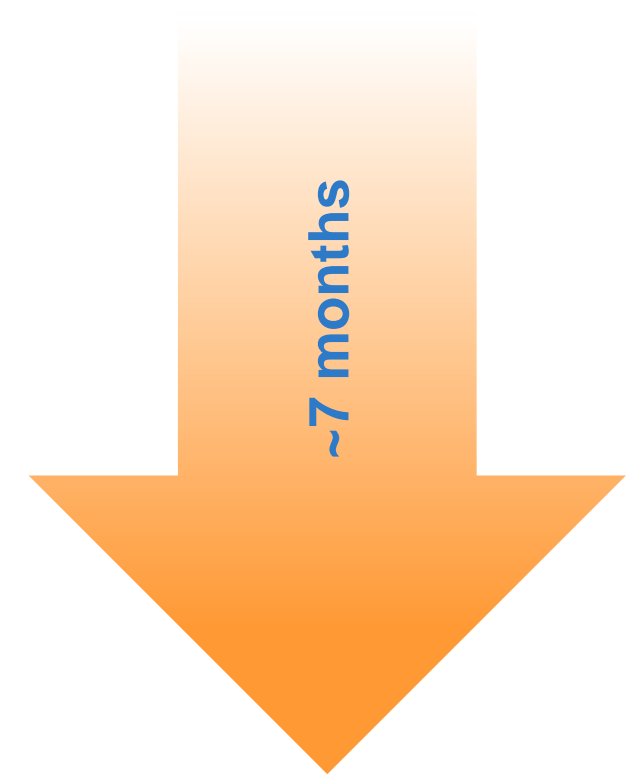
- To familiarize workgroup members with offset protocol development process – what we typically want in an offset protocol
- To present and solicit feedback from workgroup members on key considerations for the Argentina Livestock Protocol Version 1.0
- Provide draft protocol for reference and then revisions

Protocol Development Overview

- **GOAL:** To create a robust Argentina Livestock Protocol that provides best practices for GHG accounting to generate Climate Reserve Tonnes (CRTs)
 - Incentivize the capture and destruction of methane emissions from livestock operations
 - Direct carbon finance to the livestock sector and make biogas control system projects more financially attractive to investors
 - Adhere to high quality offset criteria and Reserve’s principles
 - Leverage lessons learned from the Reserve’s US, Dominican Republic, and Mexico Livestock protocols
 - Solicit and incorporate expert stakeholder feedback

Protocol Development Timeline

1. Kick-off meeting (*March 7, 2024*)
2. Workgroup process
 - Formation (*March 2024*)
 - Meeting 1 (*April 11, 2024*)
 - Meeting 2 (*May 7, 2024*)
 - **Meeting 3 – In person (*June 5, 2024 – tentative*)**
3. 30-day public comment period (*June-July 2024*)
4. Propose to Board adoption (*October 2024*)



Timeline Process Detail

	Mar	Apr	May	Jun	July	Aug	Sep	Oct
Public webinar	7 th							
Workgroup formation								
1st workgroup meeting (webinar)		11 th						
Drafting/content development								
2nd workgroup meeting (webinar)			7 th					
3rd workgroup meeting (in person) - tentative				5 th				
Drafting/content development								
Public comment period & webinar (30 days)								
Staff revisions based on feedback								
Internal reviews/formatting								
Deliver Board draft								
Public Board meeting								4 th

Workgroup Process and Expectations

CAR/Process:

- Manage the protocol development process
- Hold 3 workgroup meetings
- Reserve staff identify and solicit feedback on specific protocol criteria
 - **Specific questions for WG will be highlighted in red**
- Reserve staff will share the draft protocol with WG
- Revise protocol based on feedback

WG/Expectations:

- Attend all (~3) workgroup sessions
- Be active participants: provide input and ask questions on protocol concepts and language
- After meetings, share additional input and expertise as needed
- Review draft protocol and provide written feedback to Reserve staff
- Be constructive, collaborative, and productive



CLIMATE
ACTION
RESERVE

PROTOCOL CONSIDERATIONS

Project Ownership: Comments received

- Must have clear ownership of the reductions established through explicit title and sign the Attestation of Title
 - WG confirmed that facilities are privately owned. Verifiers should review contracts and the National Registry to verify project ownership.
 - Please provide a link to the National Registry.
- Ownership of emission reductions is tied to facilities/operations rather than the individual livestock head.
 - Should PD be required to notify/inform the other parties with interest in the livestock individuals/operations (i.e. *hotelerías*)?

Anaerobic Baseline & Greenfields

Comments received

- Is there a handbook or regulation that provides guidance on the design and maintenance of anaerobic wastewater treatment systems for Argentina?
 - National Entity for Sanitation Waterworks (ENOHSA) defines good practice and Decree 847/16 - Regulation of Standards on Discharges for the Preservation of Water Resources. Links were provided during the previous workgroup meeting.
- Greenfields: Projects that are implemented at new livestock facilities that have no prior manure management systems
 - Project developers must demonstrate uncontrolled anaerobic storage/treatment is common practice in the industry and geographic region where the project is located.
- Are there any regions in Argentina where uncontrolled anaerobic storage and/or treatment is not common practice?
 - Confirmed that it is common practice but have not received studies/data to support common practice in the country.

Eligible Livestock Categories

Livestock Categories for the default tables in Appendix B should be based on:

1. Female/male
2. Feeding type (grazing/feed)
3. System (extensive/intensive)
4. Temperature (if necessary)
5. Age/growth stage

Sources of data should be based on:

1. National Argentina data (preferred) - **currently reviewing data submitted**
2. Provincial (if conservative and representative of the country)
3. Similar country (i.e., México, the DR)
4. General LATAM/South America value (ex. IPCC)

Eligible Livestock Categories

Example from Mexico Livestock Protocol

Livestock Category
Dairy and non-milking dairy cows (on feed in intensive systems)
Heifers (on feed in intensive systems)
Bulls (grazing in large areas)
Calves (semi-intensive with grazing or dual purpose in extensive systems)
Heifers (semi-intensive with grazing or dual purpose in extensive systems)
Cows (semi-intensive with grazing or dual-purpose in extensive systems)
Nursery Swine
Growing Swine
Finished Swine
Male Swine
Non-Breeding Swine
Breeding Swine
Lactating Breeding Swine

Example table from U.S. Livestock Protocol

Livestock Category
Dairy cows (on feed)
Non-milking Dairy Cows (on Feed)
Heifers (on feed)
Bulls (on feed)
Calves (grazing)
Heifers (grazing)
Cows (grazing)
Nursery Swine
Grow/finish Swine
Breeding Swine

Categories will need data for typical animal mass (TAM), volatile solids (VS), and maximum methane potential (B0).

Eligible Livestock Categories: Comments Received

- The Secretariat of Livestock for Cordoba provided Livestock data
 - Confirmed that the information on livestock categories from Córdoba is conservative and representative of the country
 - The Reserve is reviewing the information
- Data provided is based on gender and growth stage. Typically, we have data based on system and feeding type. Is this sufficient?

Diary Cows

Veal

Heifer

Castrated Calf & Steer

MEI Calf & Steer

Cow - Adult

Beef Cattle

Calf

Heifer

Cow - Adult

Eligible Livestock Categories: Comments Received

- The Secretariat of Livestock for Cordoba provided Livestock data
 - Confirmed that the information on livestock categories from Córdoba is conservative and representative of the country
 - The Reserve is reviewing the information
- Swine is differentiated between production and commercial. Thoughts?
 - Production: while in the production plant prior to being sold in the market
 - Commercial: after being sold into the market

Swine - Production

Sow

Suckling

Post-weaning

Growing

Finished

Stallion

MEI Male

Replacement

Swine - Commercial

Suckling

Post-weaning

Capon

Cull sow

Social Safeguards: Comments received

- **Free, Prior, and Informed Consent (FPIC)**

- “Livestock Operators” refers to the entity that operates the facility.

- Reserve will clarify this in the protocol.

- Comment received that the sources for disclosing carbon price estimates to the livestock operator change over time, which could complicate compliance with the FPIC safeguard.

- Reserve clarified that this requires recently published studies and information, must explain carbon market dynamics, and the source must be reviewed by the Reserve and verifiers.

- **Labor and Safety:** The project developer must attest that the project is in material compliance with all applicable laws, including labor or safety laws.

- At the national level, Law 26.727 - Agricultural Labor regulates compliance with safety and labor regulations in livestock operations.

- National Registry of Rural Workers and Employers (RENATRE) serves as the regulatory agency that Verifiers can contact to confirm regulatory compliance at the national level

- For Cordoba, there is DECEE 617/97 - Regulation of Hygiene and Safety for Agricultural Activity.

Environmental Safeguards: Comments received

- Received comments that there are separate agencies and regulations in each Province.
 - Specifically for Córdoba, the Ministry of the Environment regulates and supervises compliance with environmental regulations.
- The Reserve will require verifiers to reach out to the appropriate Provincial agency to confirm regulatory compliance.

Site-Specific Determination of B_0 Value

Comments received

- B_0 Value: Maximum Methane Potential
- Adopted in US protocol with consultation from experts since the default values for dairy cattle were very conservative.
- **Sampling schedule:** six samples at regular intervals throughout the day and combined to represent one sampling event for each livestock category separately. Samples taken at pre-defined month range.
 - Sample procedures vary depending on the manure management system
 - Methane potential is positively correlated with milk production. To prevent overestimation, samples must be taken in average or below-average milk production periods.
- **Laboratory Requirements:** 3 years using Biochemical Methane Potential (BMP) Assay procedures and ISO 11734
 - Received comments that there are labs in the jurisdiction with the required experience.
 - Please provide the name and/or contact information for the labs.

Site-Specific Determination of B_0 Value

- Methane potential is positively correlated with milk production. To prevent overestimation, samples must be taken in average or below-average milk production periods.
- For example, the US study (Appendix E of the US Livestock Protocol V4.0) modeled monthly milk production trends from 1998 to 2011 as a percent change over annual average.
 - Sampling is limited from August to November
- Please provide monthly milk production (in terms of quantity per head per month) for a period of at least 5-10 years.
- If data is not available, PDs can utilize default values or provide facility-level milk production data to establish average- or below-average milk production (see DR Protocol)

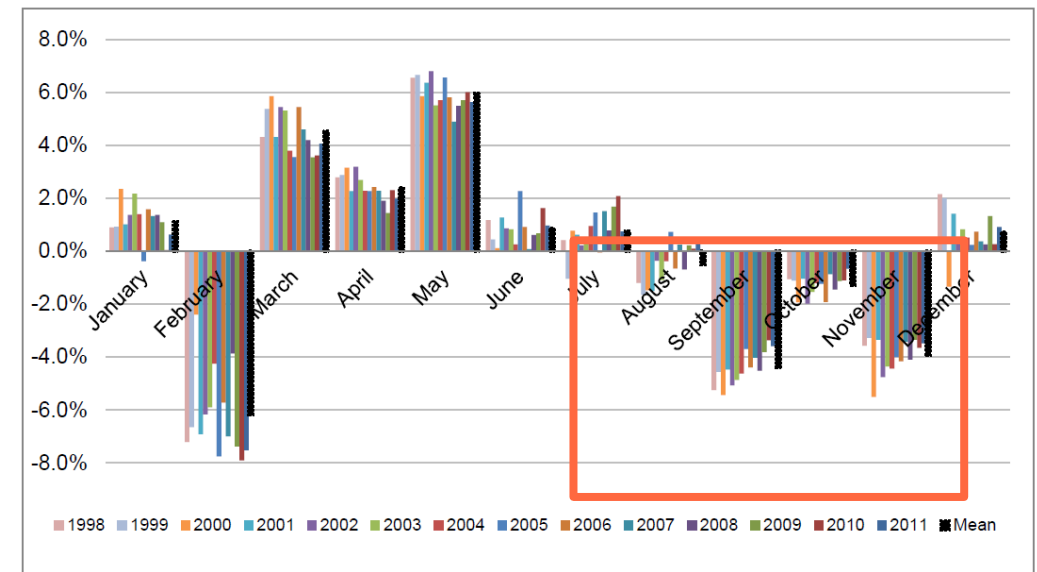
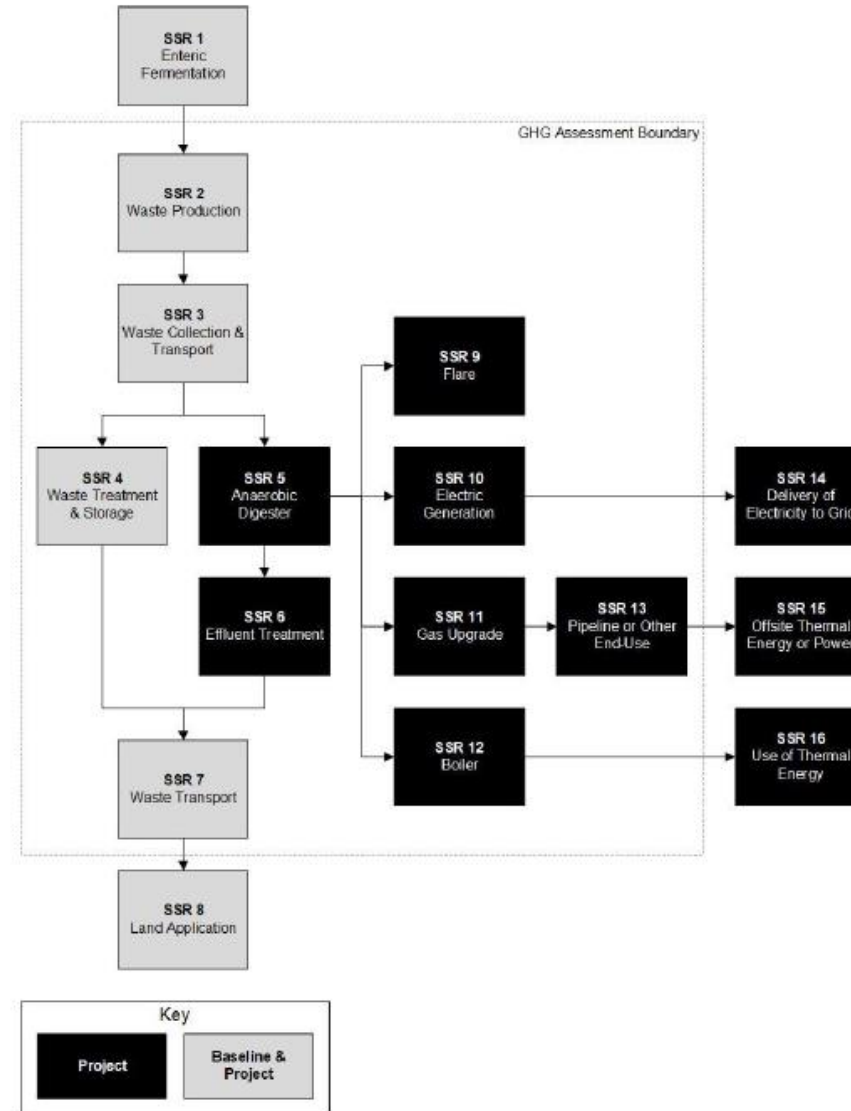


Figure E.1. Monthly Milk Production Trends as a Percent Change Over Annual Average Monthly Milk Production (1998-2011)

GHG Assessment Boundary



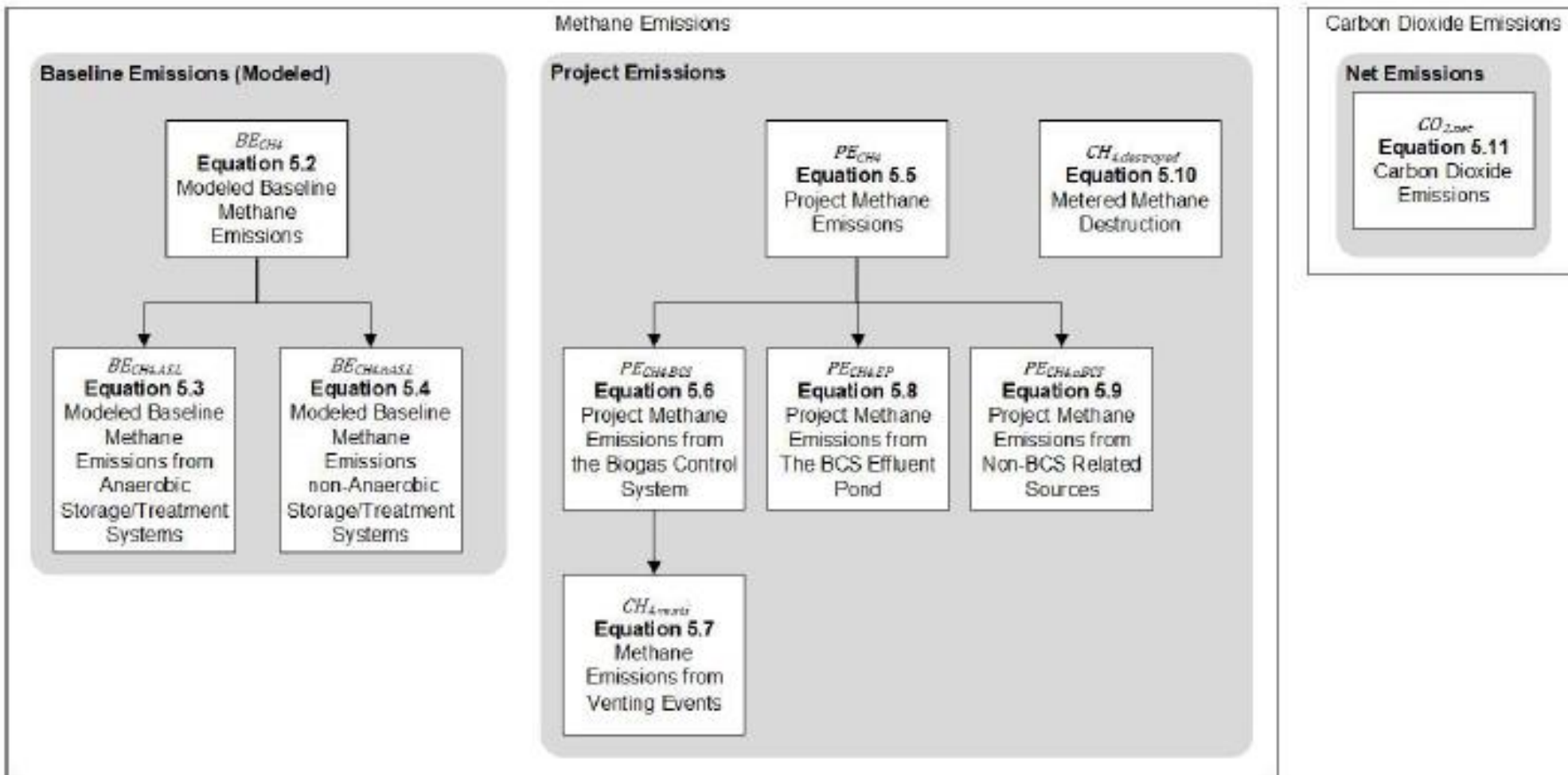
CLIMATE
ACTION
RESERVE



GHG Emission Reduction Quantification

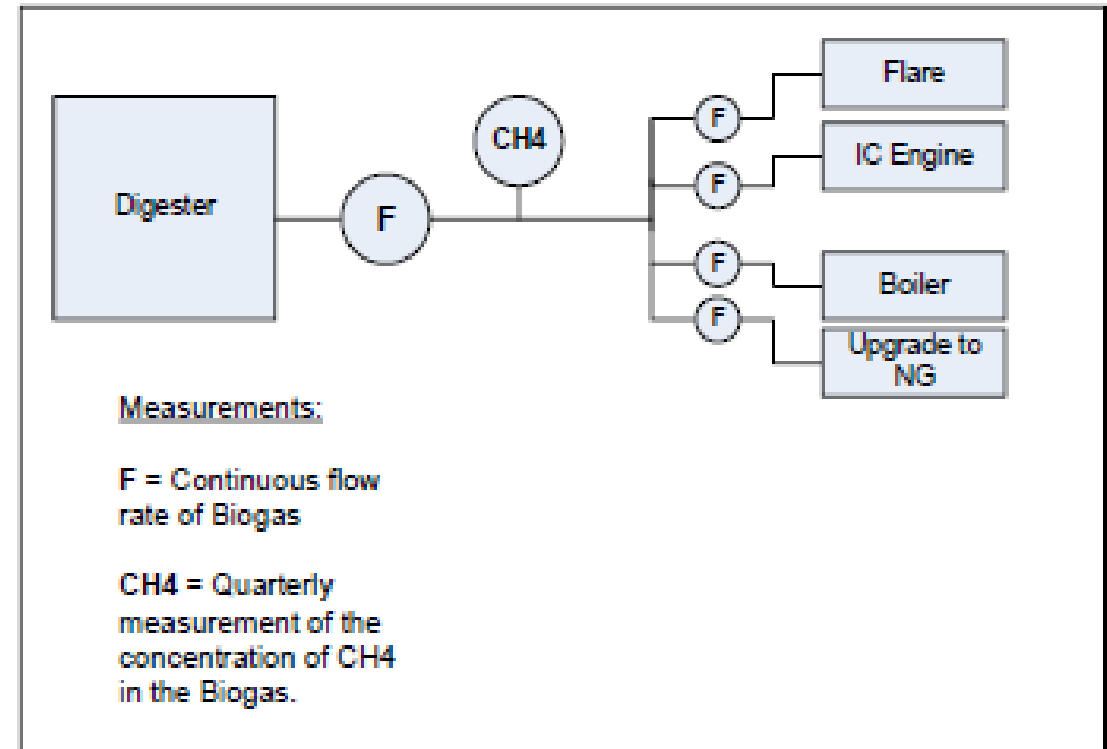
Equation 5.1 GHG Reductions from Installing a Biogas Control System

$$\text{Total GHG Reductions} = (\text{Modeled baseline emissions}_{\text{CH}_4} - \text{Project emissions}_{\text{CH}_4}) + (\text{Baseline emissions}_{\text{CO}_2} - \text{Project emissions}_{\text{CO}_2})$$



Project Monitoring

- The system must directly meter:
 - The total flow of biogas, measured continuously and recorded every 15 minutes or totalized and recorded at least daily. Must be adjusted for temperature and pressure
 - The flow of biogas delivered to each destruction device, measured continuously and recorded every 15 minutes or totalized and recorded at least daily. Must be adjusted for temperature and pressure
 - The fraction of methane in the biogas, measured continuously or with quarterly measurements; and
 - The operational status of each destruction device, measured and recorded at least hourly. The presence of a safety shut off valve may be used to demonstrate operational status.



Instrument QA/QC Requirements

- All gas flow meters and continuous methane analyzers must be:
 - Cleaned and inspected on a quarterly basis, with activities performed and “as-found”/”as-left” conditions documented.
 - Field checked by an appropriately trained individual for calibration accuracy with the percent drift documented, using either a portable instrument or manufacturer specified guidance, at the end of – but no more than – two months prior to the end of the reporting period.
 - Calibrated by the manufacturer or certified calibration service per manufacturer’s guidance, or every 5 years when calibration frequency is not specified.
- All flow meters and methane analyzers must be within a +/-5% threshold for accuracy.

Reporting Periods and Verification Cycles

- Reporting period: period of time over which a project developer quantifies and reports GHG reductions
 - Initial reporting period may be 3-12 months
 - Subsequent reporting periods may be no longer than 12 months
- Verification period: period of time over which GHG reductions are verified.
 - Initial reporting period must be verified and cannot exceed 12 months
 - After initial reporting period, there are three options
 1. 12-month maximum verification period
 2. 12-month verification period with desktop verification
 3. 24-month maximum verification period

Safeguards MRV

Eligibility Rule	Eligibility Criteria
Social Safeguard 1 - FPIC	Signed documentation demonstrating compliance with social safeguard 1 FPIC.
Social Safeguard 2 - Ongoing Notification, Participation, and Documentation	Signed documentation demonstrating compliance with social safeguard 2 Ongoing Notification, Participation, and Documentation.
Social Safeguard 3 – Labor and Safety	Signed Attestation of Regulatory Compliance form attesting to be in material compliance with all applicable laws, including labor and safety. Verifiers should contact the National Registry of Rural Workers and Employers (RENATRE) and/or other applicable government agencies.
Social Safeguard 4 – Respect Local Land Tenure Rights & No Conflicts	Signed Attestation of No Conflict attesting that there are no land tenure disputes that affect the project boundary, including all livestock facilities directly associated with the carbon project.
Environmental Safeguard 1 – Air and Water Quality	Signed Attestation of Regulatory Compliance form attesting to be in material compliance with all applicable laws, including those related to air and water quality and treatment and wellbeing of livestock. Verifiers should contact the applicable government agencies.
Environmental Safeguard 2 – Mitigation of Pollutants	Historical records and ongoing monitoring and reporting through data logging of physical measurements, online sources, and government data to demonstrate the project was designed and implemented to mitigate potential releases of pollutants that may cause degradation of the quality of soil, air, surface and groundwater, and project developers have acquired the appropriate local permits prior to installation to prevent violation of all applicable laws. Verifiers should contact the applicable government agencies.
Environmental Safeguard 3 – Animal Welfare	Signed Attestation of Regulatory Compliance form attesting to be in material compliance with all applicable laws, including related to animal welfare. Verifiers should contact the National Food Safety and Quality Service (SENASA) and/or other applicable government agencies.

ARGtool Version 1.0

Argentina



Introducción a la Herramienta de Cálculo para Proyectos de Ganadería

Se ha desarrollado esta herramienta de cálculo con el fin de ayudar con la cuantificación de las reducciones de emisiones en conformidad con la V2.0 de Mexico Livestock Project Protocol de la Reserva de Acción Climática. La herramienta está diseñada para ser la más "sencilla" como sea posible, aunque a primera vista, esta herramienta puede parecer muy complicada. Es importante señalar que sólo las hojas de trabajo que requieren la entrada del usuario son las hojas III, IV y V. El resto de las hojas de trabajo son para los cálculos automáticos, tablas y referencias y resúmenes de la ecuaciones. Todas las otras hojas de cálculo aparte de las III, IV y V no requieren intervención o manipulación del usuario. Con esto en mente, la disposición general se describe a continuación.

Hoja de Trabajo I. - Introducción e instrucciones.

Hoja de Trabajo II. - Resumen de Cálculos - En esta hoja se encuentra un resumen de la reducción de emisiones finales que serán reportadas a la Reserva.

Hoja de Trabajo III. - Datos de entrada para el Escenario de Línea Base - Esta hoja es para ingresar todos los datos para la línea base - (extraídos de los datos *in situ* y de tablas de consulta) necesarios para el cálculo de las emisiones de línea base.

Hoja de Trabajo IV. - Datos de entrada para el Escenario del Proyecto - Esta hoja es para ingresar todos los datos del proyecto (extraídos de datos *in situ* y tablas de consulta) necesarios para el cálculo de las emisiones del proyecto.

Hoja de Trabajo V. - Emisiones de la Línea Base de Metano de los Sistemas de Almacenamiento/Tratamiento Anaeróbicos - Esta hoja se encuentra en su mayor parte automatizada, sin embargo **el Usuario es responsable de la ingresar manualmente los datos de entrada de los datos de cálculo de los años previos.**

Hoja de Trabajo VI. - Emisiones de la Línea Base de Metano de los Sistemas de Almacenamiento/ Tratamiento No-Anaeróbicos - El Usuario no requiere ajustar o ingresar nuevos datos.

Hoja de Trabajo VII. - Emisiones Totales de la Línea Base - Resumen del total de emisiones de línea base por categoría de ganado y sistema de almacenamiento/tratamiento. El Usuario no requiere ajustar o ingresar nuevos datos.

Hoja de Trabajo VIII. - Emisiones de Metano del Proyecto del Sistema de Control de Biogás - Automatizada, el Usuario no requiere ajustar o ingresar nuevos datos.

Hoja de Trabajo IX. - Emisión de Metano por un Evento de Ventilación. Automatizada, el Usuario no requiere ajustar o ingresar nuevos datos.

Hoja de Trabajo X. - Emisiones de Metano del Proyecto del Estanque Efluente del SCB - Automatized, no user input/adjustment required. Automatizada, el Usuario no requiere ajustar o ingresar nuevos datos.

Hoja de Trabajo XI. - Emisiones de Metano del Proyecto de Fuentes Relacionadas con Sistemas de Control que no sean de Control de Biogás. Automatizada, el Usuario no requiere ajustar o ingresar nuevos datos.

Hoja de Trabajo XII. - Total de Emisiones de Metano del Proyecto - Resumen del total de emisiones de metano del proyecto. Automatizada, el Usuario no requiere ajustar o ingresar nuevos datos.

Hoja de Trabajo XIII. - Cálculos de Emisiones de Dioxido de Carbono - Automated, no user input/adjustment required. Automatizada, el Usuario no requiere ajustar o ingresar nuevos datos.

Descripción de datos de entrada:

A continuación encontrará una descripción de los insumos requeridos mensuales (todos los demás insumos son sobre una base anual):

Sobre una base mensual, los desarrolladores del proyecto tiene que introducir en esta herramienta de cálculo las siguientes variables:

- 1) Actualizar la población por tipo de ganado – Hoja de Cálculo III, Sección III.D
- 2) Actualizar la cantidad medida de metano capturado y quemado por el sistema de recolección de biogás – Hoja de Trabajo IV, Sección A.

Otras variables y parámetros se ingresan dentro de esta herramienta de cálculo sólo una vez al año, y algunos sólo una vez al inicio del proyecto.

Este libro de trabajo calcula automáticamente las emisiones de metano utilizando los datos mensuales ingresados por los desarrolladores de proyectos y los valores tomados del protocolo.

Para mayor conveniencia de uso, las celdas dentro de las hojas de trabajo son definidas de tal manera que:

- campos que se requieren para ser llenados por el usuario utilizando los datos específicos del sitio se destacan en Amarillo.
- campos que requieren ser llenados con la información obtenida de las tablas de consulta de la Hoja XIV se destacan en Naranja.
- campos que se calculan automáticamente pero que deben ser registrados y utilizados como insumo para el cálculo del próximo año se destacan en Durazno.
- campos que se completan de forma automática a partir de datos extraídos de la información proporcionada previamente por el usuario se destacan en Verde.
- valores constantes se proporcionan en los campos Grises.
- campos que se calculan automáticamente basados en los valores específicos del lugar y por defecto se resaltan en Azul.
- campos que muestran los resultados de los cálculos finales se destacan en Rosa.
- los campos que muestran alertas y notas para el Usuario se destacan en Rojo.
- campos disponibles para las notas y los comentarios del Usuario se destacan en color Amarillo pálido.



CLIMATE
ACTION
RESERVE

NEXT STEPS

Next steps

- ***For Interested Stakeholders:***
 - Still can submit Local Engagement Form
 - Email interest to sign up for updates as an observer
 - Email us feedback anytime
- ***For Reserve:***
 - Compile notes summary on discussion
 - Post recording, notes, and presentation to the webpage
 - Incorporate feedback from workgroup discussion
 - Identify areas of focus for next workgroup meeting (if needed)
- ***For Workgroup:***
 - Email feedback on today's discussion (by May 20)
 - Look out for information for next meeting's discussion topics
 - Tentative next in person Workgroup Meeting:
 - Argentina Carbon Forum - June 4-5 , 2024 – Comments?

Key contacts

- ***Climate Action Reserve:***

Protocol development lead:

Claudia Jurado, Analytical Associate LATAM

Email: cjurado@climateactionreserve.org

Rachel Mooney, Senior Associate

Email: rmooney@climateactionreserve.org

Amy Kessler, Director of Latin America

Email: Akessler@climateactionreserve.org



CLIMATE
ACTION
RESERVE

THANK YOU!