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SUMMARY OF COMMENTS & RESPONSES DRAFT ARGENTINA LANDFILL PROTOCOL VERSION 1.0

Four sets of comments were received during the public comment period for the Climate Action Reserve (Reserve) draft Argentina Landfill Protocol Version 1.0 (ALFP). Staff from the Reserve have provided responses to all comments received. The public comment period for the draft protocol was April 8, 2025, to May 8, 2025.

The comments received are summarized below. The submitted comment can be viewed on the Reserve's website at: <https://climateactionreserve.org/how/protocols/waste/argentina-landfill/dev/>

RECEIVED COMMENTS (alphabetically by entity):

1. Jessica Ballasi (**Beta Analytic**)
2. Jeff Daley (**First Environment**)
3. Masury Lynch (**TUV SUD Americas LLC**)
4. McKenzie Wilson & Kyle Kornack (**Windfall Bio**)

Section 2.2 Project Definition

1. **COMMENT:** We recommend that the Protocol explicitly allows enclosed biofilters as an eligible destruction device. These systems – used to biologically oxidize methane via methanotrophs – have been recognized by regulators (e.g., US EPA, State of Colorado, and Quebec) as a commercially viable technology to mitigate methane emissions. **(Windfall Bio)**

RESPONSE: Thank you for your comment. Biofilters installed in addition to another destruction device (e.g., open or enclosed flare) may be eligible under the Protocol. The Reserve is working on specific monitoring requirements for biofilters under all Reserve landfill protocols, which will be published separate from the Argentina Landfill Protocol.

Section 4 GHG Assessment Boundary

2. **COMMENT:** Our recommendation is that the Protocol should include direct biogenic content testing requirements following the ASTM D6866 Method B for any landfill seeking recognition of biogenic content. This would allow the protocols to differentiate between emissions derived from fossil-based waste versus emissions derived from organic waste. The testing requirement would bring the protocol in line with existing international programs (e.g., RFS, RED, US and Canada GHGRP, EU ETS). **(Beta Analytics)**

RESPONSE: CO₂ emissions associated with the generation and destruction of landfill gas are considered biogenic emissions as opposed to anthropogenic and are excluded from the assessment boundary. Additionally, while electricity generation for delivery to the grid, injection into a pipeline or other end uses, and use of biogas for thermal energy are eligible project activities under the ALFP, the Protocol credits the landfill gas destruction associated with the activity rather than the use of the landfill gas or displacement of fossil fuels. Thus, CO₂ biogenic emissions are excluded from the boundary and biogenic content testing is not required.

The Reserve will include a footnote in Section 4 GHG Assessment Boundary that projects that upgrade landfill gas for low-carbon fuels, pipeline injection, or electricity, it is recommended they conduct biogenic testing to ensure that the content of the biogas is sufficient for its end use; however, it is not a requirement of the carbon project.

Section 5.1 Quantifying Baseline Emissions

3. **COMMENT:** The default oxidation factor (OX) of 0.1 may risk over-crediting. We recommend implementing a tiered approach for the OX factor, prioritizing national/subnational defaults or established factors reflecting site conditions (e.g., cover depth/flux per US EPA Subpart H). **(Windfall Bio)**

RESPONSE: Thank you for your comment. During the third workgroup meeting, the Reserve proposed adopting an OX factor based on cover depth and methane flux per US EPA Subpart H or relevant Argentinian standards. The workgroup was unable to confirm that US EPA Subpart H was appropriate for the jurisdiction, nor did they provide us with an applicable standard in the jurisdiction. Thus, the Argentina Landfill Protocol continues to rely on a 0.1 OX factor, per IPCC guidance.

The Reserve will continue to monitor for regulatory standards to determine oxidation factor in Argentina, revisions to the IPCC guidance for oxidation factors, and published academic research, and make revisions to the protocol as necessary.

Section 6.2 Instrument QA/QC

4. **COMMENT:** It is recommended that the flow meter and methane concentration bullet QA/QC bullet points are updated to better reflect the edits and clarifications that follow, including addressing what is meant by “routine” and “percent drift”. We recommend that the Reserve provides a concrete time frame (e.g., quarterly, twice annually, etc.) for cleaning and inspections rather than relying on the manufacturer recommendations. **(TÜV SÜD)**

RESPONSE: Thank you for these comments. The cleaning and inspection requirement has been modified to reflect quarterly inspections. Additional maintenance (e.g., sensor cleaning) and inspections must be performed if recommended by the manufacturer. The project developer may also elect to perform routine maintenance and inspections above what is required in the protocol to ensure the operability of all landfill gas project equipment, if deemed necessary. All maintenance and inspections must be outlined in the project’s monitoring plan. Additionally, the second bullet point now clarifies that the third party must document the “as found” condition.

5. **COMMENT:** A question arises as to whether the cleaning and inspection requirement is strictly necessary for the proper operation and monitoring of the project. Typically, most if not all, meter manufacturers do not have any recommendations for “cleaning and inspection”. Landfill personnel generally do not want to pull a flow meter probe for cleaning if the meter is working properly. For gas analyzers, typically they will inspect an analyzers sample tubes and filters. However, unnecessary handling of the meters (i.e. flow meter probes) opens the door up for more unintentional meter issues to arise. If the intent of this requirement is to ensure the meter(s) is not left unattended for long periods of time, perhaps this is more of an “inspection” requirement and the “cleaning” part should be reconsidered. **(First Environment)**

RESPONSE: The intent of routine cleaning and inspections is to ensure ongoing maintenance between calibrations. However, the Reserve agrees that cleaning and inspections may result in unintentional meter issues.

The cleaning and inspection requirement has been modified to reflect quarterly inspections. Additional maintenance (e.g., sensor cleaning) and inspections must be performed if recommended by the manufacturer. The project developer may also elect to perform routine maintenance and inspections above what is required in the protocol to ensure the operability of all landfill gas project equipment, if deemed necessary. All maintenance and inspections must be outlined in the project monitoring plan.

6. **COMMENT:** Footnote 20 states that verification bodies (VBs) may conduct third party field checks. VBs may not be the appropriate entity, as the VBs need to be non-bias and maintain their impartiality. VBs providing field checks would contradict the third-party definition of no other role than conducting a field check. It may be helpful to clarify what is meant by material interest. **(First Environment, TÜV SÜD)**

RESPONSE: The Reserve acknowledges that verification bodies must maintain impartiality from the project; however, we consider conducting the field check at the end of the reporting

period to be low risk. The verification body must disclose field checks performed during the Notice of Verification Services and Conflict of Interest Assessment.

Footnote 20 now reads, “A verification body may conduct a third-party field check, given the field check is performed in the prescribed time frame, and the verification body is not the same as the entity verifying the relevant reporting period.” This point is further clarified under the “field check” QA/QC section.

7. **COMMENT:** The protocol allows for calibrations to be conducted instead of field checks at the end of the reporting period; however, it is recommended to modify the time frame to include two months after the end of the reporting period rather than only two months before. We also recommend clarifying the documentation required for calibrations performed instead of field checks. **(First Environment, TÜV SÜD)**

RESPONSE: The Protocol now clarifies in footnote 21 and under “field checks” the time frame and the documentation required to conduct calibrations in replacement of the field checks.

8. **COMMENT:** The protocol states that field checks for flow meters must be conducted against volumetric flow; however, many calibration certificates may measure accuracy in other ways (e.g., milliwatts). It also directly contradicts a sentence on page 36 stating that project developers must seek guidance from the instrument manufacturer to confirm when the 5% drift threshold has been reached and how to appropriately scale the relevant data. Additionally, we recommend that calibrations have a quantitative threshold. For example, meters must be calibrated within 25% of the average flow rate and methane concentration for the reporting period. **(TÜV SÜD)**

RESPONSE: Thank you for your comment. The protocol now clarifies that the flow meter may be calibrated to an alternative unit (e.g., milliwatts) if deemed appropriate by the manufacturer. Calibrations should now be performed within 25% of the average flow rate and methane concentration expected for the landfill.

9. **COMMENT:** The protocol states that field checks may be conducted more frequently by landfill staff; however, the competency of the individual and the accuracy of the field check procedure must be assessed and approved by the VB. For example, if there was an electrical issue that prompted an unscheduled service of all project devices. The conditions of those devices are then out of the threshold as a result to unforeseen circumstances. Would it be acceptable for the verifier to assume that the device was reading accurately prior to the electrical issue and allow the project to not scale the data, even though the calibration would suggest otherwise? Please clearly identify when and in what circumstances VBs are being given room for professional judgement. **(TÜV SÜD)**.

RESPONSE: Field checks performed more frequently than prescribed by the protocol should, at a minimum, follow the procedures outlined in the device’s manufacturer manual. However, the protocol refrains from being too prescriptive to allow for the project developer to modify the maintenance that is appropriate for the site. In examples such as the one described here, where data quality concerns may come into play, then the verification body and/or project developer should contact the Reserve for guidance.

The protocol now clarifies that the field check procedures must be outlined in the project's monitoring plan and the monitoring report must include the individual's name conducting the field check as well as any actions taken.

- 10. COMMENT:** On page 34, "If, at the time of the failed field check, the meter is cleaned and checked again, with the "as-left" condition found to be within the accuracy threshold, a full calibration is not required for that piece of equipment. This shall be considered a failed field check, followed by a successful field check." We see this with calibration certificates, where a "calibration" is performed by a qualified/accredited calibration service, but the as-found and as-left values are identical. This would indicate that the meter was simply checked for accuracy, but the meter was not altered in any way. Since this was completed by a qualified/accredited calibration service and is presented/labelled as a calibration, would this meet the calibration requirement of the protocol? (TÜV SÜD)

RESPONSE: Thank you for your comment. Yes, this scenario would meet the calibration requirement of the protocol.

- 11. COMMENT:** We recommend including specific documentation requirements for the field calibration requirement for portable methane analyzers. (TÜV SÜD)

RESPONSE: The Protocol now includes guidance for document retention including date, time and location, methane concentration reading, instrument information (model and serial numbers), concentration of the sample gas, results of the instrument calibration, and corrective measures taken (if applicable).

- 12. COMMENT:** Page 36 states, "For calibrations that indicate over-reporting (higher flow rates, or higher methane concentration), the metered values must be adjusted based on the greatest calibration drift recorded at the time of calibration." We recommend providing an example or an equation for how project developers should adjust project data. (TÜV SÜD)

RESPONSE: If a meter is found to be over-reporting by more than 5%, then the data must be scaled down according to the total observed drift. The protocol now includes an example if a project with quarterly field checks has a meter over-reporting by 6.5%, then three months of data must be adjusted by -6.5%.

- 13. COMMENT:** Page 36 states, "If the required on-site cleaning, inspection, calibration, or testing is not properly documented, GHG credits cannot be generated for that reporting period." This is partially true, as credits might be issued as long as the Reserve issues variance approval." (TÜV SÜD)

RESPONSE: A footnote was added to clarify that project developers may submit a variance request to address missing QA/QC requirements. The project developer is directed to Section 3.3.4 of the Reserve Offset Program Manual for more information.