

A6.4-INFO-MISC-002

Information note

Summary of the comments received from stakeholders on the draft methodology “Flaring or use of landfill gas” and on the associated draft methodological tools

Version 01.0



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1. Introduction

1. This note provides a summary of the views submitted stakeholders in response to the call for public inputs on the draft version of the methodology prepared based on the Clean Development (CDM) methodology “ACM0001: Flaring or use of landfill gas” and the draft tools “Tool: Emissions from solid waste disposal sites”, “Tool: Project emissions from flaring” and “Tool: Mass flow of a greenhouse gas in a gaseous stream” launched as an outcome of the Methodology Expert Panel’s (MEP) 8th meeting.
2. The call for public inputs was open between 9 to 30 September 2025, and a total of 10 respondents submitted their views. The full list of submissions can be found in the appendix to this note.

2. Summary of views to the draft mechanism methodology “Flaring or use of landfill gas”

3. The following sections summarize the views expressed in the submissions.

2.1. General

4. The methodology should provide guidelines to ensure the equitable sharing of mitigation benefits between participating Parties as required by the “Standard: Application of the requirements of Chapter V.B (Methodologies) for the development and assessment of Article 6.4 mechanism methodologies” [10].

2.2. Cover note

5. The justification why the methodology reduces the risk of lock-in (i.e., by encouraging the use of the LFG for energy purposes through the application of specific downward adjustment provisions), can also be seen as the lock-in situation since a largest part of the investment for the lock-in with flaring should be done anywhere, independent on the final solution. In addition, it is political correct to promote utilization of gas and it has been the case for decades, but it difficult to follow when integrate as part of a methodology [2].
6. The following comments were submitted related to Table 4 (Baseline approaches and baseline scenarios for each type of Article 6.4 activity eligible under this proposed new methodology):
 - (a) Do we have concrete examples of cases where the best available technology has not been chosen to generate carbon credits? Good be good to specific the level of details needed for these analyses [2];
 - (b) The text stating that “the baseline shall be determined based on BAT” does not specify how to determine the baseline scenario based on BAT. Does this mean that the baseline scenario would be the one in which it is implemented the BAT that is economically feasible? Would it only be ex-ante estimations? [4]
7. The downward adjustments are hard to read and follow the argumentation. Maybe we try to mix political ambition in a methodology. Maybe it is not a good mix. If it is kept, it could be better explained e.g., in the cover letter [2].

2.3. Scope

8. The application of the methodology should be expanded to include the implementation of biocover as an eligible type of Article 6.4 activity, or otherwise adopting another methodology to credit implementation of biocovers to encourage this activity [6].

2.4. Normative references

9. The definitions of “aged SWDS” cell, “Mature SWDS” cell and “Immature SWDS” cell are useful, but are limited to landfill/dumpsites, however in most cases the sites will not have the boundaries horizontal and vertical for these age groups, and it can be a difficult task to make the split in three age groups which could result in extra cost and risk and reputational risk at a later stage. A proposal was made to provide guidance to handle the situation with both horizontal and/or vertical uncertainties [2].

2.5. Entry into force and validity of the methodology

10. A grace-period is requested for new and existing activities that commenced after 2021 given that this methodology introduces major changes that are expected to be implemented within just 3 months and project developers relied on the tools and methodologies available at that time. The same submission also requests the opportunity for a second round for submission of inputs [3].
11. The establishment of a “grandfathering” period for activities developed under CDM is proposed since the methodology introduces material changes to core parameters (e.g., introduction of downward adjustments, stringent baseline setting and a new approach for flaring resulting in less emission reductions) that could undermine the investment certainty, as follows:
 - (a) Activities that transitioned from the CDM can apply the CDM methodology until the end of their first crediting period renewal that occurs after 2025; and
 - (b) Activities with a start date after 31 December 2020 can apply the CDM methodology that served as the basis for their development for the first full crediting period under the Article 6.4 mechanism [5] [8].
12. An extension of the current submission deadline for an additional 30 days is requested since the current consultation period does not allow for the depth of analysis and internal coordination necessary to provide the most constructive and well-informed feedback [5].

2.6. Applicability conditions

13. The applicability conditions of the methodology should be expanded to projects aiming to improve existing, underperforming utilization systems (e.g., replacing old engines with new ones, or improving capture efficiency at a site already generating electricity) to avoid restricting to projects that only upgrade existing systems only if the captured LFG was previously “flared and not used” [1] [7].
14. The applicability conditions should be revised to allow leachate recirculation if it is demonstrated that the practice aligns with sound environmental management and leads to higher overall lifetime methane capture and destruction because this practice is often considered a best practice for modern landfill management that can improve the efficiency and overall volume of LFG capture [1] [5] [7].

15. The methodology should clarify or explain which examples or what type of evidence should be provided to the DOE to demonstrate the higher efficiency of the existing equipment compared any other potential replaced equipment under paragraph 12(b) [4].
16. The methodology should not allow leakage emissions to be calculated based on the difference in efficiency between the existing heat generation equipment and the typical heat generation equipment that is used outside the activity boundary (paragraph 12(c) of the methodology) because it would promote the use of equipment with efficiencies below the BAU and it is very difficult to quantify leakage emissions based on the difference in the efficiencies [9].
17. The methodology should require at least one year of historical information data to comply with the applicability condition to invest into an existing LFG capture system to increase the recovery rate where the efficiency of the existing system is not impacted by the system implemented as part of the Article 6.4 activity (paragraph 8(b)(ii)) [9].

2.7. Project boundary

18. The methodology should include a requirement to identify nearby collection systems that are not part of the activity, and include provisions that will ensure that no LFG from nearby locations is diverted to the project activity, since SWDSs can be constructed in phases where each phase represents a distinct LFG capture area and could be even developed as different project activities [9].
19. End users of the natural gas do not seem to be included in para 16 nor table 5, while Figure 1 includes natural gas consumers (not clear if the combustion efficiency needs to be considered) [9].
20. The methodology should include the sources of project emissions in Figure 1 – which do not seem to be included, such as the use of fossil fuels or electricity as part of the project activity [9].

2.8. Demonstration of additionality

21. Paragraph 20 of the methodology should be revised to add a requirement that the demonstration of additionality conducted for Clean Development Mechanism (CDM) project activities that have transitioned to the Article 6.4 mechanism shall remain valid and will not need to be reassessed because it will be significantly challenging for projects that have transitioned from the CDM to demonstrate additionality since project participants the demonstrated additionality based on positive list may not have kept the records to demonstrate additionality through investment analysis as the requirements for this provision were not known at the time [4] [7].
22. The methodology should allow for flexibility on additionality for project located in developing countries, as provided for by the Paris Agreement, regardless of whether the project is a transitioned CDM project or a new project activity [7].
23. Additionality of LFG projects should be required only at validation and not periodically throughout the project crediting period since such types of projects require significant capital expenditures and often rely on additional carbon finance, and requirements for dynamic-additionality assessments (i.e., at periodic monitoring events) will put such investment decisions at risk [7].

2.8.1. Regulatory analysis

24. The baseline scenario and applicable emission factors should remain fixed for the entire crediting period, in order to ensure investment predictability – this comment quotes paragraph 23 of the methodology which requires the regulatory analysis to be updated annually to reflect any changes in the legal requirements to determine the parameter $F_{CH_4, BL, y}$ (amount of methane in the LFG that would be destroyed in the baseline in year y) [3].
25. The regulatory analysis should not only identify the existence of a regulation but also assess the level of its widespread and effective enforcement in the relevant geographical area, aligning the regulatory analysis with the common practice test. If it can be demonstrated that the regulation is not systematically enforced and that non-compliance is common practice, the project should still be eligible for crediting [8].
26. The methodology should clarify or explain in more detail the legal scenario “(unless the law or regulation refers to or formally integrates the mechanism as an instrument for implementation)” under paragraph 21 of the methodology [4].
27. Include the different circumstances described in table 9 (Cases for determining LFG captured and destroyed in the baseline) under regulatory surplus (section 6.1) [9].

2.8.2. Lock-in risk

28. The “Technology Lock-in” risk is adequately addressed by encouraging the use of the LFG collected for energy purposes, however the “Practice Lock-in” risk needs further elaboration for activities developed in existing, open SWDSs since such activities may prolong the reliance on landfilling for solid waste treatment [1].
29. Paragraph 26 should be removed from the methodology because encouraging the adoption of LFG utilization instead of flaring over time is not always practical or economically feasible in the project scenario – and it would be implemented if it is practical and economically feasible [7].

2.8.3. Investment analysis

30. The methodology should replace the two options for conducting investment analysis, which are confusing and risks inconsistency, by adding specific guidance as mandatory instructions to be applied using the standardized Investment Analysis tool, e.g. by considering alternative scenarios that based on the SWDS status since incineration and composting do not seem not realistic alternatives for managing a waste that is already deposited in the existing SWDS [1].
31. Option 1. Use of the investment analysis tool (under development) is be the preferred option [7].

2.8.4. Common practice analysis

32. The common practice analysis should contain an exemption to address specific contexts since a project may be common practice but still be financially unviable under these specific contexts (e.g., due to sharp fluctuations in electricity or fuel prices) [3].

33. Clarification/explanation/examples are needed under paragraph 47(e) of the methodology since it is not clear (i) if 50% or 25% of the daily waste received by the SWDS shall be chosen, or if (ii) it is a range between 25-50% [4].
34. The use of a count-based indicator based in the analysis of common practice (e.g., the number of SWDSs, number of incineration plants, etc) would not be applicable to projects implemented in existing SWDS since this indicator would need to refer to the number of SWDS with/without capture and flare/combustion of the LFG [9].

2.9. Baseline scenario

2.9.1. Selection of baseline approaches

35. Clarify whether projects implemented in a new cell from an existing SWDS are classified as being implemented in an existing or new SWDS [4].
36. Clarification/explanation/examples/presentation/models are needed to determine the approach to be followed in these cases when determining the steps of the baseline scenario [4].
37. It is understood from different sections of the methodology that the construction of the new SWDS is considered as part of the mitigation activity, and this presents issues such as more emissions than the situation prior to the implementation of the project, the construction and operation of the new SWDS is not aligned with the scope of the methodology, emissions from the construction of the new SWDS are not accounted for and the methodology does not indicate which is the eligible baseline scenario for the waste treatment component that results from the BAT analysis from paragraph 11(a)(i) [9].

2.9.2. Identification of the baseline scenario based on the BAT

38. Under the procedure to identify the baseline scenario for activities developed in new SWDSs, the methodology states in paragraph 57(a) that a technology is deemed economically viable if “*They have been implemented by at least one facility within the applicable baseline geographical reference area (.)*”, however this “single instance” criterion is insufficient to establish general economic viability since a single facility may be an outlier or benefit from unique circumstances not applicable to the proposed A6.4 activity that risks setting unrealistic baselines, contrasting sharply with the rigor applied to the project's additionality demonstration. A proposal was made to strengthen the criteria for determining economic viability [1].
39. In many developing countries or LDCs, the environmental regulation is not enforced, i.e., there is environmental normative but the country makes no effort or lacks the means to monitor its compliance, and environmental regulations are systematically and widely breached. Clarifications/explanations/examples are needed on how to address these cases, specifically when applying Step 3 of the BAT identification procedure for activities implemented in new SWDSs [4].
40. A flexibility in the procedure to identify the baseline scenarios based on the BAT should be included to allow the identification of an alternative technology or practice that represents the most feasible and environmentally sound option under circumstances where legal, regulatory, or technical constraints demonstrably prevent the adoption of the identified BAT, and such justification shall be validated by the DOE during validation [3].

41. When describing the calculation procedure of the emission intensity of new SWDS identified based on BAT, the methodology:
- (a) Does not consider that methane generated in these SWDSs are not captured by the collection system;
 - (b) Does not include the emissions from the operation of the SWDS (e.g. trucks, pumps, leachate treatment, etc.); and
 - (c) Does not consider methane emissions after the end of the crediting period or the LFG collected is not enough to maintain a flare, or once the project is not operating anymore [9].

2.9.3. Baseline emissions prior to downward adjustment

42. The following comments were submitted related to the determination of the oxidation factor (OX_y):
- (d) The approach in the methodology to determine this parameter presents critical limitations, and a streamlined, tiered approach incorporating the IPCC 2019 defaults and retaining the option for site-specific measurement (using the central estimates from the referenced study as currently drafted) was proposed [1];
 - (e) The methodology should be aligned with the IPCC 2019 Refinement and latest scientific research on the subject, and flexibility should be provided for small projects, and those implemented in developed countries that require flexibility as allowed for under the Paris Agreement [7];
 - (f) Paragraph 89 does not seem to be finalised [2];
 - (g) Seems mentioning LDCs/SIDS in Table 7 is not needed as only options 3 is relevant, it is sufficient to have it in Data / Parameters table 1 [2];
 - (h) The definition of hypothetical SWDS is unclear and could be further elaborated [2];
 - (i) For the application of the methane flux method (Appendix 1), the SWDS should be divided into zones, depending on the expected emissions, to capture any variability among zones and to ensure homogeneity within each zone. For large landfills/dumps the age groups are also vertical – one age group above the other. This situation is not captured in the proposed way forward. Maybe elaborate on the expected costs. In addition, a solution to cover the vertical differences of the age groups could be explained [2];
 - (j) The study used to propose the values for this parameter demonstrates that there is significant uncertainty in determining the amount of LFG that is oxidized due to wide range of factors that can influence such determinations but also from the methodologies employed to perform these measurements. A proposal was made to use satellite observation techniques to evaluate the parameter [3];
 - (k) The default values proposed for this parameter should be amended by using a full dataset of oxidation rates at landfills without biocovers at a minimum,¹ increasing

¹ The values proposed by the stakeholder were provided in a table included in the comment.

the emission rate bin cut-off values for non-biocovers, and replacing the bin approach with a regression analysis (that takes into account the major measurable values, including emissions rate, the presence of a biocover, cover thickness, and perhaps others) [6];

- (l) The methodology could include alternative of covering the landfill with a soil layer as an alternative mitigation activity to an existing landfill or could include a mandatory provision to use soil cover for all new landfill projects, to avoid methane emissions that are not captured and destroyed due to capturing efficiency [9];
 - (m) The large difference in the methane emissions for the different depending on the landfill cover opens the possibility of using a soil cover as a mitigation activity (if this was not required by regulations) in existing landfills. However, the draft meth does not seem to allow this possibility [9].
43. The following comments were received related to the determination of the amount of methane destroyed in the baseline ($F_{CH_4,BL,y}$):
- (a) There could be situations where regulations mandating the capture of landfill gas (LFG) are not effectively enforced or are not commonly implemented in practice (for example, in countries or regions where institutional capacity is limited, the carbon market is underdeveloped, or practical barriers prevent compliance), and carbon markets can play a significant role to provide the necessary financial incentive. Therefore, it is proposed to recognize, in the methodology, these nuances and not disqualify project eligibility based solely on the existence of regulations, especially when enforcement is weak or implementation is not standard practice [3];
 - (b) Which approach (Case 1 to Case 4) should be selected for situations where there is not requirement to capture and destroy LFG but the country published programmes and plans to incentivise or require the destruction or use of biogas in the future, without specifying the date when the requirement will entry in force [4];
 - (c) The paragraph describing Scenario C seems inconsistent: the first sentence seems to say that there is a requirement to flare, without specifying the fraction, while the last sentence seems to indicate there is no requirement to flare. If the intention is that there is no requirement to flare, then this case seems to fit better under Case 1, as there is no requirement to capture and destroy the LFG [9];
 - (d) On the differences between Scenario D and Scenario E under Case 2:
 - (i) Clear differentiations and conditions should be provided for projects fall under these scenarios, in order to enable projects to evaluate early in the development process if they are allowed to credit for the CH₄ avoidance [9];
 - (ii) The definition of “LFG capture system” seems to open the possibility of having a combination of both active and passive components, which would introduce further complexities in differentiating these two scenarios [9];
 - (iii) Revise paragraph 96(e) to clarify that no ERs under Case 2 – Scenario E can be claimed from the methane avoidance component only, whereas other components are still eligible under the methodology [9].

- (e) Under Case 2 – Scenario E, not allowing to credit any A6.4 ERs when there is no clarity on the amount that needs to be destroyed appears to conflict with para 22 (which allows to claim A6.4 ERs when requirements from regulations are exceeded). In addition, countries may find difficult to specify the amount that must be captured and flared as this will depend on the characteristics of the landfill and of the capturing efficiency – in such situations, the reason why the amount that needs to be destroyed is not specified responds to this difficulty in establishing the value, and not to the intention to require 100% destruction of the LFG [9];
- (f) The following comments were submitted related to the 40% value proposed as the default baseline destruction rate of LFG:
- (i) The value proposed to calculate the amount of methane destroyed in the baseline ($F_{CH_4, BL, y}$) for Scenario D under Case 2 (i.e., if there is requirement that does not specify the amount or the percentage of the captured LFG that must be flared but requires the installation of a passive LFG capture system for safety reasons and flaring the LFG) is an unrealistic assumptions and should avoid penalizing ambitions by decoupling the baseline performance from the activity, i.e. the baseline destruction should be calculated based on the estimated total LFG generation multiplied by conservative, fixed efficiencies for passive capture and flaring [1];
 - (ii) Applying an additional 50% destruction rate to the baseline (compared to the 20% value adopted by the registered CDM methodology ACM0001) introduces a level of conservativeness that may not reflect technical realities, implying in a significant more efficient baseline scenario than what is commonly achievable or documented in practice when compared with typical manufacturer-reported destruction efficiencies for open flares, which commonly range from 65% to 90% [3];
 - (iii) The 40% reduction for projects that had a passive system with a flare seems too high and could impact the feasibility of projects. An alternative, while maintaining the conservative approach, is to apply 20% for the baseline passive capturing efficiency and allow projects to use the estimated capturing efficiency based on its FSR (instead of assuming 50%). Further, the 100% destruction efficiency is too high, not even compatible with enclosed flares (ranging 80-90%) [9].
44. The following comments were received related to the determination of the emission factors from the electricity component (from electricity generated and electricity consumed):
- (a) “Interim solutions” are employed for the energy generation component (heat and electricity) in the absence of approved methodological tools that results in excessively conservative baseline emissions and excessively high activity emissions. A proposal was made to refer to CDM methodological tools for ex-ante estimations only, and to require the application of the Article 6.4 methodological tools for verification and issuance once they are adopted [1] [5] [8];
 - (b) The finalisation of the methodology should be delayed until work on the other referenced methodologies and tools (i.e., the “Tool: Emission factor for an electricity system”) are concluded and adopted by the Supervisory Body (SBM), and project developers should be granted with a grace period with respect to

mandatory use of the methodology and tools, of at least 1-year, considering the significant requirements that are being introduced under PACM [7];

- (c) It is proposed to apply the same default factors for $EF_{EC,grid,y}$ and $EF_{grid,y}$ because prescribing the use of higher default factors for grid consumed electricity is unnecessarily punitive in nature [7];
- (d) The draft version of the methodology requires applying default grid emission factor values, however it is not entirely clear whether activity participants are required to rely only on the default values or if there will be flexibility to apply country-specific grid emission factors. The methodology should limit the application of these values, until the grid emission factor tool has undergone stakeholder consultation and should include alternate options (e.g., through the use of official host-country figures where available) [10].

2.9.4. Downward adjustment

- 45. Clarification/explanation/examples/presentation are needed to determine the uncertainty at the lower bound of the uncertainty interval for each baseline emission component I ($UNC_{BE\ act/hist,i,CP1}$) [4].
- 46. The use of the uncertainty of the estimation based on the model to the actual measurements of LFG flow and composition is not appropriate, as the uncertainty of the model is too large in comparison with the uncertainty of the measurement devices [9].
- 47. The following comments were submitted related to the adjustment factor for the flaring component ($AF_{flare,y}$):
 - (a) The introduction of an ambitions mechanism to phase out credits for flaring over 5 years may create a perverse incentive to reduce LFG collection efficiency for activities that require backup flares for safety and operational necessity when the utilization equipment (gas engines, heat generation equipment, biomethane upgrade plant, etc) is offline. It is proposed to apply the phase-out only to primary flaring, allowing backup flaring (capped at 15%) to be credited (the definitions of primary flaring and backup flaring were also proposed) [1] [5];
 - (b) The flaring adjustment should be deferred (including for Options 1, 2 and 3) since it should function as a progressive incentive rather than a penalty and should work as a viable pathway for projects to commence with flaring, using initial carbon revenues to build the financial case for a future transition to energy utilization, which can be a requirement for crediting period renewal [8];
 - (c) The adjustment factors can have the impact that many projects will not be initiated and implemented [2];
 - (d) Since the full utilization of the LFG is not commonly feasible in the early years of project implementation, it is proposed to:
 - (i) Avoid the application of the adjustment factor for the first crediting period [3] [5];
 - (ii) Adopt a less aggressive linear phase-out over a 10-year period (e.g., 10% reduction per year) [5]; and

- (iii) Adopt a strategy in the methodology that incentivizes the use of the LFG, that offers additional recognition or crediting to projects that go beyond basic flaring and that promotes timely investment in comprehensive LFG collection systems from the outset [3].
48. The following comments were submitted related to the Option 1 under the downward adjustment (i.e., the minimum power plant capacity to refrain from applying the adjustment factor):
- (a) One submission recommends the adoption of 5 MW [3];
 - (b) Another submission seeks further clarifications on how to define the capacity of electricity for a specific project. The same submission recommends to delete Option 3 [2].
49. The exemption from the Adjustment Factor ($AF_{flare,y}$), as outlined under Option 2 under the downward adjustment (i.e., the minimum power plant capacity to refrain from applying the adjustment factor), should be expanded to explicitly include demonstrated legal, regulatory, and technical barriers, in addition to economic non-viability [5].
50. The annual 1% discount based on the first year’s baseline emissions is scientifically not appropriate for LFG projects since the methane generation decline exponentially over time as per the First Order Decay (FOD) and, consequently, the ex-post monitored baseline emissions (BE_y) also decline over time. The approach to calculate the downward adjustment should be revised to make it relative to the current year’s baseline emissions (BE_y), rather than the first year’s emissions (BE_{y1}) [1].
51. A fixed annual downward adjustment is applied by the methodology for components using LFG, however the amount of waste may vary due to circumstances that are beyond the control of activity participants (e.g., changes in municipal waste policies, market shifts, or force majeure). A provision allowing project owners to request exemption from the downward adjustment for specific years where they can demonstrate a significant and uncontrollable reduction in deposited waste should be included in the methodology [3], or a flexibility provision (without specifying the details of this provision) should be introduced [5].
52. The application of a blanket or arbitrary downward adjustment may compromise the accuracy (and potentially credibility) of project-level quantification approaches and create barriers to feasibility of projects, particularly in regions where baseline emissions have increased, de-facto reducing the scope of Article 6.4 mechanism, potentially hindering the ambition of host countries to achieve their NDC targets and the Paris goals (especially in developing economies where carbon credit projects can drive green growth by providing for much-needed climate finance) [7], and can create conflict with host countries’ policies [8]. It is proposed to:
- (c) Raise awareness to the SBM to discuss with Parties with a view of revising the RMPs [7];
 - (d) Allows for a flexible annual downward adjustment that could be modified or even waived in years where it can be proven that a decline in LFG potential is attributable to external factors, such as the documented success of municipal or national waste diversion programs [8].

53. The minimum 10% downward adjustment option is detrimental to the economic viability of carbon credit project activities and is seen as a punitive measure on activities that have high environmental and social benefits, over and above the GHG mitigation impacts. It is proposed to raise awareness to the SBM to discuss with Parties with a view of revising the RMPs [4] [7].
54. The calculation of the minimum downward adjusted baseline (equation 24) requires the determination of the activity emissions for each component i of the Article 6.4 activity, however it may be difficult in some circumstances to identify which share of the activity emissions correspond to each of the components (e.g. electricity consumption for the capture system and for the LFG purification system may be measured together using the same meter). Therefore, the methodology should apply a proportional approach based on the baseline emissions percentage of each component [9].

2.10. Identification of the conservative BAU scenario

55. The methodology should clarify which types of policy instruments should be taken into account or which should be excluded when identifying the conservative BAU scenario and quantifying BAU emissions because not all instruments create direct or indirect legal requirements nor financial incentives for a mitigation activity, particularly in the sector covered by this methodology [10].
56. The methodology should clarify how legal requirements, policies “scheduled to take effect,” and sectoral targets are to be incorporated into the BAU scenario in practice – whether as adjustment factors or through other approaches [10].

2.11. Project emissions

57. Clarifications are needed on why N_2O and CH_4 activity emissions from burning fossil fuels are included in the boundary while excluded for simplification when considering the on-site electricity consumption [9].
58. The values for transmission and distribution losses for electricity consumed from the grid ($F_{TDL,grid,y}$) and from captive power plants ($F_{TDL,captive,y}$) proposed in the methodology are overly conservative and should be revised [10].

2.12. Leakage

59. The 0.5% applied for leakage due to upstream embodied emissions in equipment may not adequately account for the higher embodied emissions in complex utilization infrastructure (e.g., engines, RNG plants) compared to simple flares. Differentiated Leakage Discount Factors (LDFs), based on the complexity of the project configuration, were proposed to improve the accuracy of leakage accounting as follows: 0.5% for activities that involves only LFG Capture and Flaring; 1.5% for activities that involve LFG Utilization for Electricity Generation or Direct Heat; 2.5% for activities that involve LFG Utilization for Biomethane/RNG production and supply [1].
60. The analysis in Appendix 2 to Leakage Discount Factor (LDF) explicitly limits the scope of this Life Cycle Assessment (LCA) only to the HDPE pipelines used for LFG collection. This scope is incomplete as it omits major sources of embodied emissions, including flare stacks, blower systems, engines, generators, gas upgrading equipment (RNG plants), and

civil works. By limiting the scope, the methodology significantly underestimates upstream leakage, leading to an unrealistically low and non-conservative leakage factor (0.5%) [1].

2.13. Data and parameters not monitored

61. The default value of 0.1 proposed for SWDSs with synthetic cover needs to be further elaborated to justify why it is conservative [2].

3. Summary of views to the draft methodological tool “Emissions from solid waste disposal sites”

62. The following sections summarize the views expressed in the submissions.

3.1. Definitions

63. To expand the definition of Municipal Solid Waste to be specifically inclusive of terms including “packaging waste /post-consumer plastic waste”, highlighting the important waste streams/types that directly influence the methane emissions from such Solid Waste Disposal Sites and recognising the importance of accounting for the direct/indirect effects of post-consumer plastic waste found within SWDS and its impacts on methane emissions arising from such facilities [11].

3.2. Data and parameters not monitored

64. Under the “Values Applied Section”, glass, plastic and metal are considered as inert, with 0% wet waste DOC_i . However various common plastic polymers exposed to sunlight in landfills/solid waste disposal sites are found to be emitters (after undergoing solar photodegradation) of methane and related GHG emissions. It is proposed to update the parameter to assign a weightage to plastic polymers for DOC_i on a conservative basis and not to consider plastic waste in SWDS as only inert. This may be updated using relevant peer reviewed data and methodologies [11].
65. A new waste type has been added: “Bulk Waste” in “Data / Parameters table 4”. A clarification would be needed to remark, following the “2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories”, that this waste type is used when the fractions of less, moderately and highly decomposable wastes in MSW are not known. In addition, it is not clear what approach and under what scenarios this waste type should/shall be used. Further examples or explanation should be provided to know what approach and under what scenarios this waste type should/shall be used [4].
66. Regarding the SWDS types under the “Data / Parameters table 5”, for “Anaerobic managed solid waste disposal sites”, this table indicates that “*These must have controlled placement of waste (i.e. waste directed to specific deposition areas, a degree of control of scavenging and a degree of control of fires) and will include at least one of the following: (i) cover material; (ii) mechanical compacting; or (iii) levelling of the waste*”. What “a degree” of control of scavenging and “a degree” of control of fires mean? It is not clear how to assess whether the SWDS has the required level of control, since the term is not very specific [4].
67. Regarding the SWDS types under the “Data / Parameters table 5”, for “Unmanaged – shallow (< 5m waste)” type, stockpiles were included in the CDM methodology if these

piles had a volume/surface ratio of 1.5 as minimum, and low porosity and high humidity which could be validated by the DOE by visual inspection. Are these types of stockpiles still eligible under this new version of the tool under Art 6.4 as anaerobic baseline scenario? Visual inspection depends on the perception of the observer, this will cause a lot of uncertainty and effect on the baseline. Stockpiles may not be available at the time of the validation after project implementation [4].

68. Regarding parameter f_y “Fraction of methane captured at the SWDS and flared, combusted or used in another manner that prevents the emissions of methane to the atmosphere in year y”, for Application A, this table states that f_y is determined once for the crediting period ($f_y = f$). However, this contradicts paragraph 23 of the methodology “A6.4-MEP008- A04_Flaring or use of landfill gas” which requires that “activity participants shall update the regulatory analysis annually to reflect any changes in legal requirements and update the parameter $F_{CH_4,BL,y}$ as per section 7.2.2.1.3 below accordingly” [4].

4. Summary of views to the draft methodological tool “Mass flow of a greenhouse gas in a gaseous stream”

69. The following sections summarize the views expressed in the submissions.

4.1. Monitoring methodology

70. The value of molecular mass of N_2O is wrong. The correct value is 44.013 instead of 440.13 [4].

List of submissions

1. The following table contains the list of submissions used in this information note.

Table 1. List of submissions received

Submission #	Stakeholder	Submission date
1	Vikash Talyan (Gold Standard foundation)	25 September 2025
2	Morten Pedersen (Coordinator ApS)	29 September 2025
3	Nuno Barbosa (UniCarbo Energia e Biogás Ltda)	30 September 2025
4	ALLCOT TBS Team (ALLCOT Limited)	30 September 2025
5	Paulo Laguardia (Orizon Valorização de Resíduos S.A.)	30 September 2025
6	Barbara Haya, Phd; Yitong Yang; Dimitrios Zekkos, PhD (University of California, Berkeley)	30 September 2025
7	Olivia Tuchten (Promethium Carbon)	30 September 2025
8	Antônio Januzzi (ABREMA – Associação Brasileira de Resíduos e Meio Ambiente)	30 September 2025
9	Gonzalez	30 September 2025
10	Ritika Tewari	30 September 2025
11	Raghuvir Raghav Das (Humboldt Fellow)	30 September 2025

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Document information

Version	Date	Description
01.0	17 October 2025	Compilation of inputs from stakeholders by the secretariat.

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