Session 4 Q&A
GMI Biogas Subcommittee Training Series: Best Practices for Landfill and Organic Waste Management

1. **Rizwan Jabbar:** What sort of Carbon credits methodology would be most appropriate for GHG emissions from Municipal solid waste from a country like Pakistan?

   Response: For the purposes of developing carbon credits, the methodologies from the Gold Standard or the Verified Carbon Standard would be appropriate for quantifying GHG emissions reductions from municipal solid waste projects.

2. **Rizwan Jabbar (verbal question):** David, can you please explain further your point about the joint carbon mechanism from the government of Japan? I have heard of the other VCM, Article 6, Gold Standard etc., but have not heard of this one. We are exploring options to claim carbon credits for our projects that has a potential to reduce GHG emissions significantly.

   Response: You can find more information about the Joint Crediting Mechanism here: https://www.mofa.go.jp/ic/ch/page1we_000105.html Unfortunately, it does not appear that Pakistan is currently listed as a partner country under this mechanism.

3. **Sandra Mazo-Nix:** David, can you talk a little bit about how countries can go ahead and set up an MRV system similar to what the US is doing?

   Response: The Global Methane Initiative has developed several resources for countries to learn about how to establish MRV systems, including the MRV Resource Center and the Policy Maker's Handbook for Measurement, Reporting, and Verification in the Biogas Sector. These resources provide an overview of why MRV is important, best practices for MRV systems, and information on how to establish MRV systems.

4. **Sandra Mazo-Nix:** Lucas, a similar question for you for GHGRP, what is the model that US facilities have to use? Is that something given by the USEPA?

   Response: The LandGEM model provided by the USEPA is a very good model that we use to calculate emissions for several uses and other regulatory reporting. However, landfills subject to the GHGRP are subject to Subpart HH and the equations and formulas in 40 CFR Part 98 subpart HH. There is no publicly available model for these equations that I am aware of, however many of the large waste companies and landfill consultants have models made.

5. **Sandra Mazo-Nix:** David, can any model be used to estimate emissions or are there approved models that have to be used in order to model what the emissions are?

   Response: It depends on the rules of the MRV system. For example, the Gold Standard and Verified Carbon Standard methodologies specify the methodology that must be used to estimate emissions to generate carbon credits. For national-level GHG inventories, countries are expected to use the IPCC methodologies for estimating emissions from the waste sector.

6. **Rizwan Jabbar:** Are there any other open source GHG measurement models in market?

   Response: GMI has developed the Solid Waste Emissions Estimation Tool (SWEET) for estimating GHG emissions from the waste sector at the city scale. The IPCC has a tool for

estimating emissions from solid waste for national-level inventories. EPA's LandGEM model as discussed above is also available.

7. **Rizwan Jabbar (verbal question):** My question is related to the limit of greenhouse gases. It was mentioned that the GHGRP program has a limit of 25,000 metric tons per year for certain facilities. If a facility reaches this limit or goes above this threshold, are there any penalties or repercussions or some sort of mechanism applied there for these scenarios?

   Response: The 25,000 metric tons per year of CO2 equivalent limit is the threshold, where once that limit is exceeded, the Facility is required to report as part of the GHGRP. There are no penalties or repercussions once this threshold is crossed, however, the Facility is now required by law to report emissions. Facilities under 25,000 metric tons per year of CO2 equivalent, are not required to report.

8. **CEO BWMC:** how 68 kg feedstock can produce 26461 kg of digestate per day. figures given in example

   Response: This was an error in the presentation. It has been corrected to show 68 tonnes per day.

9. **Sandra Mazo-Nix:** David, can you talk about how SWEET compares to other emissions estimation tools like IPCC?

   Response: The methods used in SWEET are based on the IPCC equations, so the results are similar. However, SWEET allows users to run scenarios, such as adding landfill gas collection, or diverting waste to compost or anaerobic digestion. SWEET also estimates emissions from waste collection and handling trucks and equipment.

10. **Sandra Mazo-Nix:** David, can Organics Economics be used to estimate the financial viability of several plants?

    Response: OrganEcs can currently only estimate financial viability for one plant at a time. However, you can use multiple copies of the spreadsheet to analyze separate facilities.

11. **Sandra Mazo-Nix:** David, can you talk about how SWEET has been used around the world?

    Response: SWEET has been used in more than 50 cities to estimate GHG emissions from the waste sector and to analyze scenarios for reducing emissions. See the SWEET webpage for three case studies on how it has been used.

12. **Tayyaba Akhtar:** can we have another training specific to the tools ?? kind of workshop for learning purposes and to have insights of these tools

    Response: This is something GMI provides and can plan for in the future.

13. **Rizwan Jabbar:** will we get certificates for training?

    Response: GMI will issue certificates to attendees of this training series.