

Friday, February 18, 2022

**Sent by email message to the Offsets and Emissions Trading Section at [creditscompensatoires-offsets@ec.gc.ca](mailto:creditscompensatoires-offsets@ec.gc.ca)**

Dear Offsets and Emissions Trading Section:

**RE: Draft Federal Offset Protocol: Landfill Methane Recovery and Destruction**

The City of Guelph (City) welcomes the increased opportunities for cost-effective greenhouse gas (GHG) mitigation that the Greenhouse Gas Pollution Pricing Act's (GGPPA) Federal GHG Offset System will provide. We are grateful for the opportunity to provide Environment and Climate Change Canada (ECCC) comments on the Landfill Methane Recovery and Destruction Protocol (Protocol).

**Eligibility**

The City notes that the Protocol will be most effective in jurisdictions that do not already require operation of a landfill methane recovery and destruction system. In Ontario, landfill gas (LFG) collection is required for large (greater than 1.5 million cubic metres of waste in place) landfills built or expanded after 1998 (Ontario Environmental Protection Act, Regulation 232/98), leaving only smaller and older sites with low LFG production, which typically have not installed LFG collection systems in the absence of incentives. The Protocol may help improve the economics for some of these sites in Ontario. However, a greater opportunity may exist in those larger and newer sites (i.e., those with the greatest LFG production) that already collect LFG as required by Ontario regulations, but do not have an incentive to progressively expand and optimize their system since the Ontario regulation does not include a performance standard (e.g., a minimum percent LFG recovery). Section 3.1 and 4.2 of the Protocol clarify that a "project site" may qualify as an area of an active landfill that does not have an LFG collection system, even if other parts of the landfill may include one.

ECCC may consider:

- Clarifying definitions of additionality, if any, for landfills that have existing mandated LFG collection systems
- Quantifying the number of landfills eligible to use the Protocol and the anticipated impact of LFG collection system installation in these landfills (potentially under different additionality eligibility rules to understand the impact of the Protocol's wording on its GHG reduction impact)
- If the Protocol will exclude landfills that have existing mandated LFG collection systems, emphasizing to applicable local jurisdictions, through intergovernmental forums such as the Canadian Council of Ministers of the

Environment (CCME), the GHG mitigation opportunity in landfill methane recovery and destruction by enforcing performance standards.

## **Oxidation factor**

Section 8.1 of the Protocol assumes an oxidation factor of 0 for landfills with a “synthetic liner covering the entire landfill area” and of 0.1 for those without such cover. We suggest that there may be three potential issues with this approach:

Firstly, “Synthetic liner” in this case could be better described as a “geomembrane final cover system” or similar, as there are many types of geosynthetics used in landfill construction and the section is referring to the final cover system rather than the liner/leachate collection system. Furthermore, the oxidation factor of 0 would model a scenario where LFG drainage was directly vented to atmosphere (e.g., through a vent flap or vent stack) however geomembrane-covered landfills may also include soil cover or engineered features such as biowindows, biofilters, or biofiltration trenches specifically designed for methane oxidation. All these options could provide comparable to better methane oxidation than final cover systems lacking a geomembrane.

Secondly the oxidation factor value of 0.1 for other final cover systems is defined by the absence of a “synthetic liner” rather than the presence of a final cover system with sufficient physical and biological features to provide methane oxidation. Final cover systems with an assumed oxidation factor of 0.1 should be defined positively to include the attributes responsible for their performance rather than by the absence of an alternate system.

Lastly, to provide the most conservative quantification of offsets generated, a higher oxidation factor can be used. As written, the protocol incentivizes the construction of cover systems with poorer methane oxidation characteristics to maximize the offsets that may be claimed. With reference to the previous section, the small or older landfills (with low LFG production) that may be the only ones that qualify for this Protocol may find it far more economical to use passive, biological methods to reduce GHG emissions rather than an active LFG collection system. The passive biological oxidation approach is outside the scope of the Protocol for offset qualification.

To address these gaps in the Protocol, the ECCC may consider:

- Revising the term “synthetic liner” with regard to the final cover system to accurately reflect its construction and use
- Clarifying the method of LFG venting used with “synthetic liner” cover systems
- Defining the nature of a final cover system that may achieve an oxidation factor of 0.1
- Create opportunities to appropriately credit projects that use enhanced methane oxidation in the final cover systems, either with or instead of an active LFG collection system

## **Missing data**

Section 11.4 of the Protocol allows up to 7 days at a time of missing data to be acceptable when certain conditions are met. However, the Protocol does not define the total amount of offsets attributed to periods of missing data, for example as a percentage of annual offsets generated. Creating a cumulative missing data limit could help incentivize better measurement and more fair and accurate reporting.

ECCC may consider:

- Creating a cumulative measure of offsets estimated from missing data and limiting the annual amount of offsets claimed from missing data

## **Operational status**

Section 11.5 of the Protocol introduces requirements for destruction devices to confirm their operating status. For flares, a minimum flare temperature is specified, although the location of the measurement is not specified. Other important flare operating parameters (for example flow) are not discussed. Rather than providing more detail on flare operating conditions, it may be more expedient to reference device-specific operating parameters determined by a licensed professional engineer that would apply to any device, and not just flares.

ECCC may consider:

- Either more closely prescribing key operating conditions for the different possible destruction devices; or
- Defining operational status by external reference and for all types of destruction devices

## **Calibration and maintenance records**

Section 11.3 of the Protocol requires equipment to be calibrated to a minimum 5% accuracy. Section 12 requires recording or calibration and maintenance records and documentation of calibration and maintenance requirements. There does not appear to be a minimum maintenance or calibration frequency, though these are implied in order to meet specified accuracy and record keeping requirements.

ECCC may consider

- Defining minimum calibration and service frequencies or including by external reference

## **Closing**

We thank you for the opportunity to comment on this Protocol. The City supports this initiative and welcomes Canada's interest in receiving technical input from local government partners. Please let us know if we may further clarify any of the comments made herein.

Sincerely,

**Jennifer Rose**, General Manager



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