

## CRITICAL ANALYSIS OF LITERATURE ON LANDFILL GAS COLLECTION EFFICIENCY

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**Most estimates which suggest landfills are the third largest source of methane emissions are based off of a gas generation model coupled with an assumed collection efficiency.**

### Importance of Gas Collection Efficiency (GCE):

- GCE is a critical parameter in understanding emissions from landfills.
- The number is used both by regulatory agencies as part of their reporting models and by corporations as part of their ESG goals.

### Challenges in Recommending GCE Values:

- Recommending values, or ranges of values, that could be applied to emissions models is difficult in consideration of:
  - The large ranges reported in the literature.
  - The numerous site-specific factors that influence CE.
  - The limited data related to direct measurement of collection efficiency.
- Such models are being used both for regulatory setting and by companies for reporting emissions.

### Need for Improved Data and Alternative Methods:

- Our findings highlight the need for:
  - More data that can estimate GCE.
  - The consideration of alternative ways to estimate annual emissions estimates from landfills.